The Builder.

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Front, No. 59, Bath-street, Glasgow.—Mr. T. L. Watson, F.R.I.B.A., Architect ..... *Double-Page Photo-Litho.*

St. John Baptist Church, San Remo.—Mr. R. Knill Freeman, F.R.I.B.A., Architect ..... *Two Single-Page Ink-Photos.*

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The Holborn to Strand Street Designs.

THE eight designs for the crescent street which is to connect the foot of the Holborn to Strand street with the latter thoroughfare, and for the island block facing the Strand, have been on view to the public during the present week in the Gallery of the Society of Painters in Water-Colours. The architects concerned are Messrs. R. Blomfield, W. Flockhart, Ernest George, H. T. Hare, A. Mervyn Macartney, E. W. Mountford, Ernest Runtz & Co., and Leonard Stokes. The designs are not signed, and have been distinguished by numbers bestowed, not consecutively from 1 to 8, but apparently by some hap-hazard process of shaking figures out of a bag, and taking those that fell out first; the result being that the designs are numbered 17, 19, 20, 21, 23, 26, 27, and 29. What is the object of this eccentricity one cannot imagine. The names of the authors are pretty well known among those who care to know; but as long as they are not officially disclosed we shall respect their anonymity.

No one can look at the drawings without at once perceiving that the absurd fancy which the County Council seem to have had, that the eight designs might furnish a kind of fund to draw upon for street frontages to each separate property erected on the site,—A taking a bit out of one, B a bit out of another, and so on—is now rendered absolutely futile. A series of sketches for a kind of irregular Amsterdam or Nuremberg street might possibly have served that purpose. But every one of the architects has—and rightly—treated the crescent street and the Strand front as a comprehensive design, a whole and not a collection of units. Rightly, we think, because the effect of a crescent street cannot be realised (as we have said from the first) except by a uniform treatment; to break it up into irregular portions is to destroy the effect of the crescent. And the Strand portion, from its position and its definite termination at the two ends, seems equally to demand a comprehensive treatment. That being so, it is obvious that no use can be made of any one of these designs except as a whole, and that unless the 2,000*l.* expended on them by the County Council is to be entirely wasted, the only thing that can be done with them is to select one of them as the best, and carry it out in its totality. This can only be done in one of two ways; either by the County Council itself becoming landlord, and erecting and letting the property; or by rigidly tying down every tenant to take a site of defined frontage and erect his portion of the building on it in strict subordination to the general design. The first alternative would unquestionably be opposed by the majority of ratepayers, though in the long run it might perhaps be a beneficial course even in public interests; and it would certainly be laying a new and unprecedented task on the shoulders of the Council. The second system might be worked out on paper, but the question is whether tenants would be forthcoming under such conditions. But unless one or other course is adopted, these drawings are of no use, except to make a very interesting exhibition.

The designs resolve themselves mainly into the elevation of the north side of the crescent street, the elevation of the south side of the crescent street, and the elevation of the island block towards the Strand, the other side of which forms the aforesaid south side of the crescent street. The north side of the crescent street forms a long segmental curve with a wide break nearly but not exactly in the centre (the opening of the new street up to Holborn), and two smaller diagonal street openings. The south side of the crescent street forms a convex curve concentric with the other, and continuous in the centre, but broken by a smaller street opening towards each end. The Strand front forms a straight line or not, as the architects have chosen to treat it, also broken by the openings of two side streets, the lower ends of those which show in the south crescent street front. On the Strand front these occur symmetrically in regard to the centre and ends. Any centre feature in the crescent street (south side) must be placed centrally with the axis of the new street to Holborn, which (as observed) is a little out of the centre of the crescent; consequently, the axial line of the Strand front does not coincide with the axial line of the crescent front. This looks awkward on paper, but would not of course be perceived in fact, except in cases where the centre part of the block has been treated as a courtyard, with a block on the north side facing both to the courtyard and the crescent. Here the difference of axis has caused difficulties, and some clever contrivances to evade them. The instructions to architects directed that the architects should or might show a use of part of the Strand block for a public building; a thinly-veiled invitation to show how the new London County Hall might be placed there.

The two main questions to keep in mind in considering the designs seem to be, whether the architecture shown is properly "street architecture," and secondly, whether the design affords capabilities for separate letting which would be likely to make it a commercial success: the first question æsthetic, the second practical. In regard to the first, we should hardly say that the employment of a large order on the front was not proper to street architecture, and as we believe this would be the general feeling among architects nowadays, we may attribute the pretty extensive use of the order in these designs to a feeling on the part of the authors that they were rather expected to produce something that would be in keeping with Somerset House. Another point to notice is that there are two ways of regarding the problem as a matter of architectural grouping; you may either regard the crescent street as a whole, of which the north and south sides should correspond; or you may regard the Strand island as one whole, to which the north side of the crescent street forms only

a backing. One of the architects alone, No. 20, has taken this view of the matter; so that in his design, while the south side of the crescent is treated with a dignified stone frontage in keeping with the Strand front, the north side of the crescent is treated much more plainly and for the most part in brick. This is not the best for the effect of the crescent street; still it is perfectly logical from what is evidently the author's point of view. All the others have treated the three fronts as designs of similar character.

No. 17 (to take them in the order of numbering) shows one of the most street-like designs of the set; he avoids a large order, and only employs small columns in single stories, clothed with much rustication; the design is largely dependent on the treatment of the windows, and there is a picturesque multiplicity of effect about it. The south side of the crescent shows a dome in the centre, presumably intended for that of the County Hall. The front is broken by a special feature at regular intervals, slightly projecting and marked by rusticated columns; this feature terminates however, below the balustrade, rather weakly, in a broken curved pediment with a window thrust through it. Most of the architects appear to have had a wholesome desire, as in this case, to keep the crescent skyline curve as unbroken as possible: in which we think they are right. The side streets are two-thirds blocked by colonnade screens projecting from each side and leaving only a narrow space in the centre, which practically is not convenient. As a letting property this front would be useless for shops; the doors are too few and the windows too small. The author has shown his County Hall towards the Strand, with a colonnaded portico with single columns in the middle and coupled ones at each end, which does not look very well. The centre is set back with curved wing walls at each side. The one large rustication voussoir struck into the haunch of the window arches has an awkward effect, and the general treatment of the block, from the County Hall point of view, is weak and scattered for a public building design. But the feeling for street architecture in the other fronts is very good.

No. 19 adopts a courtyard in the centre of the island block, with a curious device for getting over the difference of axis between back and front, which will be seen when we publish the plan, but is difficult to describe. The design for the south side of the crescent is very dignified, with two stories of a heavily-rusticated basement, and over part of it an order through two stories above. There is a central cupola. The side streets have an arcaded screen of three arches. The north side of the crescent is treated to harmonise with the other, but with large arched openings in the ground story for shops. The entrance to the new road is emphasised by a pavilion with a small cupola, at each angle. The Strand front shows an arcade in the centre, giving access to the courtyard. The centre block is emphasised by very graceful cupolas at its two extremities, echoed by smaller ones at the extreme ends of the composition. There is a fine unity and solidity about the whole of this design. The interior courtyard is an oblong with a colonnade inside taking a semicircular line at each end.

No. 20, to which we have already referred, shows a very interesting and harmonious design for the Strand frontage. There is a rusticated surbase with small semicircular windows in it, supporting an order running through two stories, and which is effectively stopped, at each end of the main block, by a mass of rusticated wall. The south side of the crescent shows the same order, interrupted by rusticated blocks each crowned with a low dome of very pleasing design. The end blocks are treated in a lighter and more ornate manner, with a small order in each story with arched windows between. The lofty and very graceful cupolas at the ends of the composition contrast most effectively with the more severe design of the domes in the centre portion; the whole makes a charming composition. The different treatment of the north side of the crescent has already been referred to; the strong rusticated arched ground story with shop windows, in stone, and the plain brickwork over, make a very good example of plain but not ineffective shop architecture. The angles at the entry of the new road, however, rather want emphasising. This portion is planned with a semicircle cut out of the south side of the crescent, so as to make a kind of circus with a central feature. The ground story at the east and west ends of the island block, both in the Strand and crescent fronts, is treated as an open loggia. This would look well, but it is not a convenient treatment for business premises requiring light.

No 21, though the author employs a large pilaster order, which is of stone on a brick *fond* (a method which detaches the pilasters rather too much), is nevertheless more essentially a street architecture design than most of them, and shows moreover a distinct attempt to combine usefulness with effect. The dominant idea in it is to have a succession of series of large arched openings in the ground story, suitable for shop windows, interrupted at intervals by more solidly treated blocks. The window treatment above is very simple, the windows being left almost plain. The Strand front shows a similar style of treatment, but with an order and segmental pediments at the centre and ends, a small but very graceful cupola in the centre and still smaller ones at the extremities. This design shows dormer windows rising behind the balustrade. The small amount of ornament introduced is very refined, especially the effect of the sculpture on each side of the circular windows in the upper part of pavilions. The entries to the side streets are marked by a screen with an arched centre opening and lower square-headed side openings. The detached effect of the stone pilasters on the brickwork, before referred to, is rather emphasised by the rusticated basement being also broken under them, making a set of rather too strongly marked vertical strips. But in the main this is a design with a great deal to recommend it, and comes nearer the proper object to be aimed at than most of them.

No. 23 shows an effective treatment of plan in the centre portion of the island, where there is a separate building with a courtyard behind it, and connected with the main building by a kind of wing with an arch in it for access to the courtyard, and treated as an open colonnade above. The treatment of the Strand front is very harmonious and well-balanced in general lines of composition, but regarded in detail it is a very tame Classic, with orders in which the columns are a great deal too narrow for their height; this was no doubt intentional and not an oversight, but it looks weak, and the whole design looks more like a front of a museum than street architecture. In the north side of the crescent street shops are provided for; but the remainder of the design, besides its tameness of treatment, looks unpractical for the situation; one hardly sees how it is to be turned to account.

The author of No. 26 has been strongly impressed by the vicinity of Somerset House, and treats the openings of his side streets in a manner directly borrowed from the river front of that noble building, throwing a rusticated arch in one span over the whole road and erecting an open colonnade above it. If there was to be a screen at the end of the side street (a feature which looks well but is doubtful from a hygienic and practical point of view), this was the best way to do it, as leaving the roadway totally unobstructed. On the south side of the crescent street a semicircular court is cut out of the plan opposite the end of the new road, with a colonnade across the opening of it; apparently this is intended as the entrance to the County Hall or whatever public building may be placed there. In the Strand elevation the centre block is treated in a very severe and solid manner, with rusticated walling and small windows, contrasted with a lighter and more graceful treatment of the end blocks, which are laid out for shops, with large arched windows above and below, and with a good deal of sculptural decoration. The whole makes an exceedingly fine composition, excellent both in general effect and in treatment of detail. Above the pedimented pavilions in the centre block are small cupolas, well designed in a severe and restrained style, but yet pleasing in line. The north side of the crescent is treated a good deal like the centre of the Strand portion, but with large arched openings for shop windows (the piers, as far as effect goes, would have been better rather wider), and the windows above treated very simply, the top tier forming square panels cutting into the lower member of the cornice. The angles flanking the entry to the new road are strongly emphasised by coupled columns and a pediment, with small cupolas on each side. A very fine design, shown in a very fine set of drawings.

No. 27 is a very florid design of decidedly French type, and intended in fact to import the character of Parisian street architecture into London. There is a great deal of go about it, but unfortunately it seems to have the defects of French taste without the French finish in detail. At the best, however, the Paris style seems out of place in London; and we should be sorry to see anything like this carried out on the proposed site. Its reputed author has done things so much better than this in regard to taste and originality, that we wish he had followed his own precedents rather than have gone to Paris for inspiration.

No. 29 is more roughly executed than most of them, and the drawings do not do full justice to what is in fact a very original design. The plan shows two deep bays in the centre of the south side of the crescent, the block between them facing the new road. The openings of these courts are filled in with two stories of solid rusticated walling with an open colonnade over them. On the Strand front, and generally, the

leading idea of the design is two stories of plain horizontal rustication and an order through two stories in the upper portion, and the general line of the design broken at intervals by special features. On the second floor the windows are varied, each alternate window being a large grouped three-light one, with a balcony supported by sculptured figures. The upper windows are kept very plain. Sculpture is sketched in at a good many points in the design, roughly but with an eye for effect. The screen at the end of the side streets is so designed as to appear to carry the architectural design right across them, the skyline being merely lowered a little, and the upper portion shown with columns and a large group of sculpture between them. This looks very well, but how about light and air to the street? This design, however, is one of much originality, and it is a pity it had not the same advantages in finished drawing as some of the others, to do it justice.

Mr. Norman Shaw has been asked to advise upon the designs, but we understood that his advice is only to be private and confidential. Mr. Shaw may fairly be considered as the leading English architect of the day; whether he is the safest person to take as a guide and critic on other people's designs is another question. We should rather like to have the result of the eight architects' votes—each voting for the one he preferred next to his own. At all events we may repeat as a last word, that if anything is to be done, practically, with these designs, it can only be done by selecting one and carrying it out in its entirety.

Taking the collection as a whole, it is a very fine one, and a credit to the English architects of to-day.

NOTES.

British School at Athens.

THE Annual Meeting of the British School at Athens on Tuesday, reported in another column, must have left an impression on any one previously unacquainted with the work of the Institution, highly favourable to its character and its future prospects. Even in regard to funds, although the Report expressed some anxiety, the balance-sheet is not so depressing as might have been expected, and though 500*l.* a year is little enough for the Government of so wealthy a country to grant for explorations of such value, the renewal of this grant for five years is not to be despised, when we consider how difficult it is to extract anything at all from our Government for archæological investigations. But the success of the recent explorations in Crete is something quite beyond expectation, and vindicates the importance and value of the School, while it promises still further information on the unknown past. Archæological research seems gradually tending to turn myths into history, more or less. We may not get quite so far as was suggested by Mr. Asquith in his humorous address, and find remains which would enable anatomists to restore the skeleton of the Minotaur, or architects to give a measured drawing of the Labyrinth; but at all events we have got reason to think that "Minos, King of Crete," may have been no such mythical personage after all.

Workmen's Compensation. Contracting out.

IN commenting upon a statement made at the Miners' Federation Conference at Saltburn last week, a daily contemporary waxed very indignant over "the paltry 9*l.*" awarded to the widow of a miner who was accidentally killed in Lancashire, adding that of this sum "the workman had contributed one-half." As a matter of fact, the amount of compensation recovered by the widow (according to the report of the proceedings in the same journal) was 90*l.*, which, although considerably below the maximum sum obtainable under the Act, can hardly be described as a paltry one. The amount alluded to as being contributed by the deceased workman was really the proportion contributed under the scheme by himself and his fellow-workmen. But the delegate who mentioned this case went on to assert that employers were able to obtain certificates from the Registrar of Friendly Societies allowing them to adopt a scheme for contracting out of the Act, even when 90 per cent. of the workmen objected to it. The Registrar is quoted as contending that if only one man was in favour of the scheme he was entitled to grant the necessary certificate. This being opposed to the letter as well as the spirit of the Act, the statement is hardly credible. The certificate is only to be given after ascertaining the views of the employer and workmen, and then only subject to the scheme being "on the whole not less favourable to the general body of workmen and their dependants than the provisions of the Act." Were the statement made at the Saltburn Conference correct, it would appear that the issuing of "contracting-out" certificates was a mere farce. But the interests of the workers are very carefully safeguarded in this respect, and it is always open to them to apply for a revocation of the certificate. Upon such an application being made, the Registrar is directed to examine into the complaint, and if satisfied that good cause exists "he shall, unless the cause of complaint is removed, revoke the certificate."

The City Corporation and London Gas.

RESOLUTIONS were passed at the conference of London Local Authorities, held at the Guildhall last Wednesday, calling upon Parliament to protect gas consumers from the effects of the monopoly created by the Gas Acts of 1847 and 1860, and declaring that in the opinion of the Conference no gas company supplying the Metropolis should be allowed to charge more per 1,000 cubic feet for gas than the lowest price at which it is supplied by any one of the gas companies. Apparently the Corporation of London, the London County Council, and all the minor Local Authorities are agreed that Parliament should be approached with the object of forcing the Gas Light and Coke Company to reduce its charge for gas on the north side of the Thames to the sum charged on the south side. The high price charged north of the Thames is a constant source of irritation, but it should not be forgotten that the introduction of any drastic measure of the kind recommended would result in a heavy drop in the value of Gas Light and Coke Company shares, which have hitherto been regarded as a safe investment owing to public confidence in the security of contracts made under Government seal. Moreover, the delegates at the conference appear to have overlooked the possibility of the metropolitan gas companies agreeing to pull together for mutual benefit, and arranging that one company should not reduce its gas charges to the detriment of another.

The Heating of Railway Stations.

IT is to be hoped that the present dearness of coal, so important to railway companies, will draw the attention of railway managers to the waste of fuel caused by the system of open fireplaces in waiting-rooms and booking offices. One central heating place would warm a station of moderate size much more efficiently than does the present system. It would be interesting to know what amount of coal is consumed by the London and North-Western Railway Company, for example, at its different stations merely in warming them. Shareholders in railway companies are singularly apathetic. English railway managers and officials are quite as conservative as those who rule and direct Government offices, yet the shareholder does nothing to move the former to improvements. It is only by the pressure of the public and of shareholders that railway companies can be kept progressing. Competition has almost had its day so far as English railway companies are concerned, and improvements must be brought about by other means. Any shareholder who will urge the railway companies to adopt more efficient and more economical systems of heating stations will do good service to the public and to the pockets of shareholders.

Improvements in St. Luke's Parish, London.

THE London County Council will seek, in the course of next session, for powers to widen Central-street, St. Luke's, which leads out of Old-street into City-road, at an estimated cost of 81,250*l.*, of which amount the acquisition of property is assessed at 70,750*l.* Under their Improvements Act of 1897 (60 and 61, Vict. cap. 252) the Council obtained authority to set back the northern side of Old-street, between Central-street and Goswell-road, and also the eastern side of Goswell-road from its junction with Old-street to as far as Ludlow-street (formerly Willow-row). That work, which was begun in December, 1897, will relieve the very heavy and crowded traffic at the crossing of Goswell-road and the ends of Clerkenwell-road and Old-street, and the roadway will be widened to 60 ft. from its former width, varying from 40 ft. to 50 ft., for a distance of about 300 yards; the cost, including a new sewer and a subway for mains, &c., was estimated at 164,500*l.* Old-street forms a portion of the thoroughfare from New Oxford-street, at Hart-street, to High-street, Shoreditch, for which the late Metropolitan Board of Works obtained powers in 1872, and which was finally completed in August, 1878; the widening at the corner of Goswell-road was proposed to the Board in June, 1876, by the St. Luke's Vestry; the Local Authorities were then averse from sharing the cost of what they maintained to be a metropolitan, rather than a merely local, improvement, but now, we understand, the Vestry, or their successors, will contribute to the expense. The leases on the Ironmongers Company's property in Old-street, around the parish church, are falling in rapidly, and the demolition of many of the old houses—those in Pear Tree-street were built in 1725—is already begun. The property is of considerable extent, and it is said that the site of the church and churchyard, with two old burial grounds, were sold by the Company two hundred years ago for 900*l.* For the parish, taken out of St. Giles, Cripplegate, was built the church, having a singular obelisk-shaped

spire, in 1732-3, after the designs of the elder Dance, who was buried there in 1768.

The Goupil Gallery.

Messrs. Boussod & Valadon have introduced us to a fine and original Scottish landscape painter who is new to us, though it appears that he has already attained repute in some Continental art centres. This is Mr. W. Mouncey, of Kirkcudbright, a painter who may be said to be of the school of Constable, and some of whose landscapes are not unworthy of a place beside that master's work. Mr. Mouncey paints landscape in a broad and free manner, giving, like Constable, the intellectual impression of the scene rather than the realistic facts. Among his small landscapes here "On the Banks of the Dee," "The River," "A Woodland Glade," "Barrhill," and "Winter," are all admirable. In the large picture of "Westminster," though the general effect is fine, we do not enjoy seeing a grand building reduced to such a complete smudge; rather too essentially a landscape-painter's view of architecture. The other large work, "Kirkcudbright," however, the town and hills as seen from the river, is altogether a noble landscape, and represents some of the highest qualities of the art.

Messrs. Tooth's Gallery.

At Messrs. Arthur Tooth & Sons' Gallery in the Haymarket the central picture of the collection is Mrs. Normand's (Henrietta Rae) "Diana and Calisto," which was formerly, if we remember right, at the Academy; one of the largest and most elaborate but hardly one of the best of this able artist's works. The collection includes a large and fine example of Troyon, "A River Ferry-Boat—Gathering Storm;" a picture which recalls a past chapter of art, and exhibits a method of treating Nature which would hardly be accepted in these days, at least in England; but of its grand effect there can be no question. There is a small cattle picture by Rosa Bonheur, and M. Bouguereau is represented by two life-size paintings, a very charming three-quarter length of a peasant girl "From the Orchard," and an impossible painting of a nude Cupid apparently swinging from two branches of a tree (though the position of his arms is quite inconsistent with the idea of his weight being supported by them), and with his toes touching what is supposed to be the surface of water ("L'Amour sur l'Eau"), but looks like ice. The mere execution of the figure is of course very good, but we have never seen a picture which illustrated more unhappily the unreal and superficial character of Bouguereau's art. By M. J. Brunet—a name we do not remember—is a fine and pathetic little scene "In a Convent." Mr. MacWhirter's large tree with an evening sky behind it—"The Monarch"—is a fine landscape, broader in style and graver in feeling than is usual with him. There are two landscapes by Mr. H. W. B. Davis; one of Mr. Peter Graham's rock and surf subjects; some small landscapes by Corot, Daubigny, and Dupré, and one by Mr. Leader, "In a Welsh Valley" (47), which makes one wonder how an artist who can paint such an admirable and broadly handled landscape on a small scale can become so mannered and conventional on a large scale, as in other works in the same room. Mr. Blinks's admirable picture of two pointers, and Mr. Dollman's clever *genre* painting, "A Question of Compensation," both of them "line" pictures at the last Academy, are also to be seen again here; the former is perhaps one of the best dog pictures ever painted.

Mr. McLean's Gallery.

The exhibition of pictures at Mr. McLean's Gallery in the Haymarket contains some fine landscapes, among which may be mentioned several examples of Westerbeck's landscape and sheep subjects, always much the same in motive, but always good—"Changing Pastures" (64) is perhaps the best; an exceptionally good example of Mr. Wimperis's art, "View at Coldwaltham, Sussex," equally fine as regards composition and breadth of style; two mountain and cattle subjects by Mr. Louis B. Hurt, who runs Mr. Peter Graham very close in his own line (or one of his two lines); a fine and rather unusual work by Jan Van Couver, "A Towing-path, Holland"; and a good specimen of Clays's sea-piece, for he has only one, on which slight variations are played. Among pictures in which figures predominate the most important is a fine one by M. Lhermitte, "Gleaners"; and there is Herr Muller's "Courtyard of a Mosque," remarkable for the solid treatment of the architecture, and Mr. Seymour Lucas's expressive figure of a violoncello player.

Society of Fine Arts.

The collection of pictures by Mr. Herbert Schmalz, at the Society of Fine Arts Gallery, exhibited under the title "A Dream of Fair Women," is not, as such title might imply, a set of illustrations of Tennyson's poem, but a series of female heads, with an occasional full-length, under various titles—"Viola," "Daphne," "Mignon," "Lilian" &c., though there is not much individual character or expression in them; "Mignon," just mentioned, is one of the best, and answers pretty well to the idea of Goethe's heroine, who was not quite the sentimental person she is taken to be by those who think of her chiefly as singing "Kennst du das Land?" For most of the remainder one name would do as well as another. That there has been little careful study of physiognomy in painting them is evident from the fact that all the heads, down one side of the room at all events, have the eyebrows painted exactly alike, as if after a stock pattern. The dainty and smooth execution of flesh and costume gives them rather the look of enlarged miniature paintaings. There may be people to whom this kind of art appeals.

Turner's House, Chelsea.—A memorial tablet has just been set up on the house, No. 119, Cheyne-walk, where Turner passed the closing years of his life, and wherein he died on December 19, 1851. The tablet has been modelled and cast in lead by the Guild of Handicraft after the design, and in an honorary capacity, of Mr. Walter Crane, who, we gather, has committed it to the care of the National Trust. The house, where one may yet see the iron railing that was fixed for Turner that he might paint and sketch from the roof, was threatened with demolition five years ago, but its destruction was averted, and the house has since been substantially repaired.

The Sanitary Inspectors' Examination Board.—The next examination for certificates of qualification for appointment of sanitary inspector or inspector of nuisances, under Section 108 (2) (d) of the Public Health (London) Act, 1891, will be held in London on Tuesday, January 15, 1901, and the four following days. Particulars will be forwarded on application to the Hon. Secretary, Wm. R. E. Coles, 1, Adelaide-buildings, London Bridge, London, E.C.

THE STATISTICS OF SAXON CHURCHES.

BY PROFESSOR BALDWIN BROWN.

VI.—Catalogue Raisonné of Examples.

(*Continued.*)

District IV.—**The Midlands**, from Notts and Derbyshire on the north to the Valley of the Thames, embracing the counties of Notts, Derbyshire, Leicestershire, Rutland, Northants, Beds, Bucks, Hertfordshire, Middlesex, and Oxfordshire.

A glance at the map of the distribution of Saxon churches (*ante*, fig. 1) will show that the central part of this region is particularly well supplied with monuments. Northants contains some specially important examples, such as Brixworth, Earls Barton, Barnack, Brigstock and Wittering. The region can best be surveyed from north to south.

Nottinghamshire.

Carlton-in-Lindrick is the only contribution, but it is a monument of considerable interest, exhibiting both pre-Conquest and Norman features. Of the former the best is the tower arch, where the enriched capitals and plain roll arch-mouldings remind us of the corresponding features at Sompting and St. Botolphs, in Sussex.

Derbyshire.

This county presents a number of churches to which plain chancel arches and narrow r.h. internally splayed loops give an early character. There may be mentioned Ault Hucknall (not seen by the writer), Caldwell, Long Eaton, Marston Montgomery, Sandiacre, Sawley, Stanton-by-Bridge, but of these none can be pronounced pre-Conquest. Sandiacre has the best claim in virtue of the antique-looking masonry of the fabric and of a triangular-headed opening above the chancel arch, but the windows and chancel arch are Norman. *Repton* is, on the other hand, an important example, presenting the only instance in the country of a columned crypt, or, as the Germans say, *Hallenkrypta*, that may claim a pre-Conquest date. The Saxon character of the crypt at Repton has been doubted, and the late J. T. Irvine considered the vaulting and columns to be Norman,* though the outer walls and their cornice are earlier. The vaulting is curiously irregular, and the caps of the twisted columns are rudely chamfered down from the square of the abacus to the round of the shaft, and enriched with a series of grooves of quite a Saxon character. They resemble, indeed, the bases of the angle shafts of the church of Kirkdale, Yorks, that dates about 1060. This rudeness of work might be compatible with a Norman origin, but the walls of the chancel above are certainly Saxon, on the evidence of their pilaster strips, and they rest partly on the vault, which must, therefore, be at least of the same date. The crypt may accordingly be reckoned late Saxon, and it is certainly of very different date from the early Christian *confessio* at Ripon, Hexham, or Brixworth. Besides the chancel, considerable portions of the eastern part of the pre-Conquest church are still standing, but have been altered internally.

Leicestershire.

Barrow-on-Soar, which seems to have had a Saxon tower, has been rebuilt, and Tugby has no pre-Conquest marks. On the other hand, *St. Nicholas, Leicester*, is an example of great value, possessing undoubtedly Saxon windows in the north wall of the nave, that is pierced below with Norman arches of early character. The wall is about 30 ft. high. The windows in question are double-splayed r.h. openings with the heads on each face of the wall turned in two ranges of Roman bricks. The Saxon quoins are visible outside at the west end of the nave, and it is noteworthy that this stands just within, and so blocks access to, the old Roman west gate of the city familiar under the name of the "Jewry wall." This is a fact of much importance in connexion with the question of the condition of Roman cities in the Saxon age.

Rutland.

Market Overton has a most characteristic example of Saxon masonry in a fine tower arch preserved, as well as some fragments of Saxon

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* *Derbyshire Archæological Society's Journal*, vol. v., and *Journal of Archæological Association*, 1894. The Rev. F. C. Hipkins has published a book about Repton of which the writer has only seen the edition of 1892.

crosses, in the rebuilding of the church. The structure of it is illustrated in fig. 19, and may

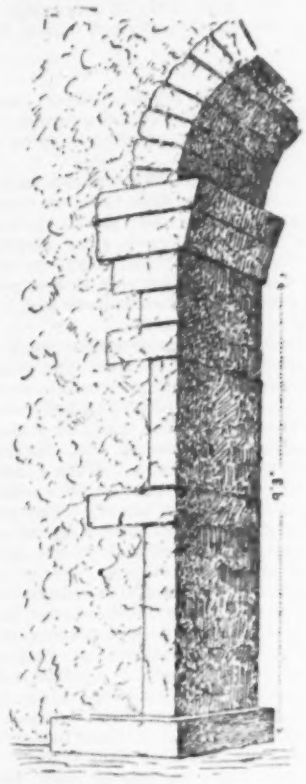

Fig. 19.—Saxon Tower Arch, Market Overton, Rutland.

be compared with the Norman structure shown *ante*, fig. 5.

NORTHAMPTONSHIRE

owes to its good building stone and other causes a remarkable possession in fine churches, and it is noteworthy that with all the mediæval activity in building of which the district was the centre, so many older structures have been preserved. Starting at the north-east corner of the county, *Peterborough* has preserved to us the unique feature of the foundations of the Saxon Abbey church, now to be seen under the central part of the existing Norman structure. It was cruciform, and probably ended square towards the east.* Not far off the noble Saxon tower of *Barnack* presents the characteristics of Saxon masonry at its best in the l. and s. quoins, pilaster strips, triangular-headed openings, &c., of the exterior, and shows, too, some admirable specimens of Saxon decorative carving. The belfry stage is later. Internally we find a tower arch, 12 ft. 9 in. in span, with remarkable imposts, and a sedile-like recess in the west wall, with niches resembling aumbries in those to north and south. (There are not *three* sedilia.) The fact that the west quoins of the original nave are visible outside the tower walls to north and south makes clear the important fact that the tower was never the nave of a church, as was the case at Barton-on-Humber, and probably Broughton, in Lincolnshire.

A few miles to the west, across the ancient Roman Ermine-street that now carries in this part the road telegraph wires to York, we discern on an upland a mile or so from its village the small but complete Saxon church of *Wittering*, with its four nave and two chancel quoins in careful l. and s. work, and its magnificent late Saxon chancel arch. No original openings are preserved. The tower is later. Wansford, on the Great North road, has no Saxon features. A few miles away, in the heart of the old Rockingham Forest, lies *Brigstock*, which has preserved its Saxon west tower and nave walls in good stonework, with some of the best existing door and window openings, some with sloping jambs. West of the tower is a circular stair-turret, after a pattern met with at Brixworth, Hough-on-the-Hill, Lincolnshire, and elsewhere. Barton-Seagrave, near Kettering, is a good specimen of early Norman work, the walling of which might pass for Saxon. Above the valley of the Nene stands the tower of *Earls Barton*, without question the most imposing Saxon monument in the country. It has lost its original tower arch, but preserves similar external features to those at Barnack, with the addition of large belfry openings, each divided by four baluster shafts set, abnormally, on the outer face of the wall. The pilaster strips are joined by round and straight-sided arches, giving a deceptive appearance of a derivation from timber work. There is a west door. The tower measures 61 ft. 6 in. to the top of the (modern) battlements and 24 ft. on its west face. The walls at the ground are 4 ft. thick. The plan is badly set out, and the south wall is a foot longer than the north. The tower stands at the foot of a moated mound that is partly within the present churchyard, but this is probably not earlier than Norman times.

Still on the edge of the valley of the Nene, but on the other side of the county town, lies *Brixworth*, a rare example of a Basilican church, dating originally from about 680, and exhibiting, besides its primitive features, Saxon work from more than one later period. It is still a spacious building, though it has lost its side aisles, and has an internal width of more than 30 ft. by a total length of 117. It has an apse (not vaulted), polygonal outside with angle buttresses similar to those at San Vitale, Ravenna, with indications of a *confessio* below; a square space cut off from the nave before the apse after a fashion observable in others of our seventh century churches; a nave about 60 ft. by 30 ft., with the old clearstory windows and openings (now blocked) between piers into the former side aisles; a square west tower, with a later Saxon opening divided by baluster shafts from its first story into the church, and a circular stair turret, later than the tower, but still of Saxon date, to the west of it. The masonry is rubble, with a large use of Roman brick irregularly laid in the arch heads. Marks of lateral buildings at the west end open up interesting archæological problems. The early Saxon date of the structure is undoubted, and there is no ground for ascribing to it a Romano-British or Roman origin. That the clearstory belongs to the original structure is shown by the form of the windows, which are not splayed, but have the Roman and early Christian form (see *ante*, fig. 6).

The south part of the county between Daventry and Towcester gives us at *Stowe-nine-Churches* a Saxon tower-arch with strip work; at *Pattishall* some l. and s. work in quoins, and a good specimen of the plain chancel-arch of Saxon date; and at *Greens Norton* a noble Saxon nave with l. and s. work at all four quoins, and remarkable height of walls, which show original work up to about 33 ft. The nave, which measured 37 ft. by 18 ft. 6 in., has been extended eastwards.

BEDFORDSHIRE.

This county, for its size, makes an important contribution to the monuments. At *St. Peter's, Bedford*, there is Saxon work in the axial tower and the chancel, and indications on the west face of the tower that would repay attention. The peculiarity here is the following. Both the aforesaid tower and the chancel have l. and s. quoins, and are doubtless contemporary, and there was some building west of the tower, the abutment of whose walls against it is visible. The chancel is wider than the tower, so that the plan does not accord with that of Barton-on-Humber, in which the tower was really the nave of the church, and was wider than the chancel. The tower opens to north by a tall elliptical arch, about 9 ft. by 5 ft. 6 in., with head rudely turned in thin slips of stone, set edgeways. This same curious form of arch occurs in the east face of the tower of Knotting, which otherwise does not seem specially early.

Clapham possesses a notable square west tower of pre-Conquest type, remarkable for its height and severe plainness. The lower stories are lighted by small loops, splayed inside and out, but the belfry stage, where the tower diminishes by a set-off, has recessed openings which have a later appearance. The Saxon character, at any rate, of the tower below the belfry is unmistakable.

Steventon.—This interesting church has Saxon work in the lower part of the west tower, especially a south doorway, 9 ft. by 2 ft. 6 in., and double-splayed r.h. lights above to north and south, the latter preserving an original oaken board in the centre of the wall. At Turvey the only ancient indications are the tops of two old r.h. windows just above the present south arcade. They are double-splayed, but the external splay is narrow, and the features are doubtful criteria of pre-Conquest date, as the proportion and technique of the church suggest a Norman rather than Saxon origin.

BUCKINGHAMSHIRE.

Passing by Lavendon, with its plain square tower, where there are no special pre-Conquest features, we find at *Wing* the only still complete aisled basilican church of Saxon date in the country. It has a polygonal apse with crypt beneath of plan intermediate between the earlier *confessio* of Ripon and Hexham and the fully-developed *Hallenkrypta* at Repton. The nave, arcades, and part, at any rate, of the aisle walls are original. The details of an evidently original window high up in the east wall of the nave suggest a comparatively late date for the structure.

[*Iver*], in the south-east corner of the county, has the remains of two enriched r.h. windows cut into by a later arcade in the north wall of the nave. The arcade is Norman, and certainly not late in the style. The mouldings look late Saxon rather than Norman, but the way the outer ones are stopped at the top of the jambs is Norman, and it is doubtful whether Professor Freeman's view of the work as pre-Conquest is correct,* for the blocked windows seem more likely to be of the Overbury type (see *ante*,

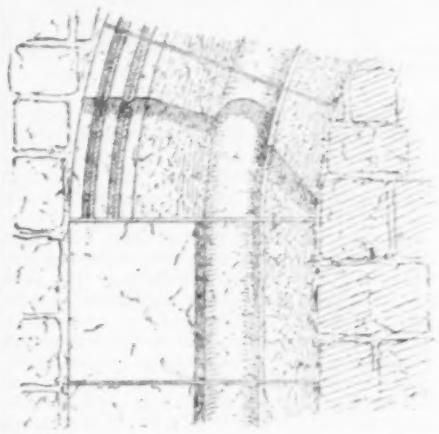

Fig. 20.—Moulding of Blocked Window, Iver, Bucks.

fig. 6) than really double splayed, as he assumed them to be (fig. 20).

HERTFORDSHIRE

gives us one example. At *St. Michael, St. Albans*, a nave, 21 ft. 4 in. wide, with walls 3 ft. 10 in. thick, shows small r.h. windows arched in Roman brick, set in the side walls, so that the top of the splay in the interior is only about 15 ft. from the ground. A nave thus low and wide has been enlarged in late Saxon or more probably early Norman times by plain arches cut through the side walls, and very irregularly set out and spaced.

MIDDLESEX.

Kingsbury is the only example; is a simple nave without chancel, the pre-Conquest origin of which is attested by well-marked l. and s. quoins at the west end. There is a r.h. south door, and no old windows.

OXFORDSHIRE.

Crowmarsh Gifford is Norman, and the same must be said of the neighbouring church (in Berkshire) of St. Leonards, Wallingford, which is most remarkable for the carving on the chancel and sanctuary arches, in which interlaced work is prominent.† At Oxford itself, Mr. Park Harrison has detected Saxon fragments in the east wall of *The Cathedral, Oxford*, while there is a more prominent example in the west tower of *St. Michael, Oxford*, which exhibits double belfry openings with mid-wall work in two stories and on all four sides, save in the upper story to east, where there has, perhaps, been an alteration. There are bulging baluster shafts in the openings, and lower down to west a double-splayed r.h. window.

At Bicester a curious triangular-headed opening in the nave wall between two arches of the arcade suggests an earlier date than that of the Norman arches adjacent to it. *Caversfield*, north of Bicester, has good specimens of the

* J. T. Irvine, in *Journal of Archæological Association*, xlvii

* *Archæological Journal*, vii., 102.

† Mr. Park Harrison considers the church a Saxon one. *Journal of Archæological Association*, xlvii.

small r.h. double-splayed light, with mid-wall slabs, north and south of the lower stage of the tower.

Northleigh. — Here a square tower, once axial, exhibits double belfry openings on all four sides with mid-wall work. There are plain cubical cups on the bulging baluster shafts.

In the part of the county bordering on Gloucestershire we meet with the grand church of *Langford*, replete with interesting features, both architectural and sculptural, of various epochs. The axial tower has a Norman arch opening into the chancel and Norman belfry windows, but the arch from the nave is of earlier type, and in the ringing chamber on each side to north and south there are two highly interesting pre-Conquest lights. They are double-splayed with a mid-wall slab in which the perture is of the curious keyhole shape observable in some Lincolnshire towers, but, to the writer's knowledge, in no other part of the country. On the outside face of the tower there are pilaster strips, 12 in. wide, stepped where they start from the base moulding and where they join the string courses that divide the tower horizontally above.

District V. — The West Midlands from Gloucestershire to Stafford and Chester.

Turning now our steps northwards on a more westerly line through the stone-building district of

Gloucestershire,

we recognise a Saxon fabric in the nave of the fine church of the lovely village of *Bibury*, where the jambs of the chancel arch, the remains of a stone rood above, and a circular double-splayed light in the south wall of the nave are all of pre-Conquest character.

Coln Rogers, nearer to the Fosse Way, is a remarkably complete specimen of Late Saxon work. Here the nave and chancel (the west tower is later) both show unmistakable pre-Conquest features. These consist in l. and s. quoins (partly reconstructed) at the four angles of the nave, and pilaster strips, 10 in. wide, in the north and south walls of both nave and chancel, the latter of which has been lengthened eastwards a couple of feet. The chancel has a characteristic internally splayed light in the north wall and the chancel arch has its jambs and voussoirs constructed of through-stones, though the enriched imposts, with pellet ornament, might pass for Early Norman (*ante*, fig. 9).

Daglingworth is a better-known example owing to the carvings in the chancel, which have a juster claim to be reckoned Saxon than many of the similar pieces scattered up and down the country. The nave, which has l. and s. quoins, was divided by a cross-wall (now removed), an arrangement seen at Boarhunt and at South Elmham. It may be noted that western divisions of a nave, or west adjuncts thereto, occur at many periods, as at Barton-on-Humber (Saxon), Gillingham, Norfolk (Norman), and Headbourne Worthy, Hants (fifteenth century). The south doorway into the nave, 3 ft. 1 in. wide, is a Saxon feature. It has moulded imposts (*ante*, fig. 9).

Miserden, upon the Cotswold uplands, has Saxon north and south doors, the former blocked, but no other pre-Conquest sign. Fig. 21 A gives the north door.

St. Oswald's Priory, Gloucester, shows among its ruins some Saxon fragments, but the chief examples in this part of the Severn Valley are at Deerhurst. *St. Mary, Deerhurst*, gives us the almost complete fabric of a Saxon priory church, with so many features of interest from the west tower to the ruined walls of the east apse that no description can be attempted here. A large number of openings, variously treated and enriched, and an undoubtedly Saxon font, repay careful study.

Deerhurst (Odda's Chapel).—An inscribed stone found at Deerhurst in 1675, and preserved among the Arundel marbles at Oxford, mentions the dedication of a *regia aula* (basilica) at a date which can be fixed at April 12, 1056. This was formerly supposed to refer to the priory church of St. Mary, but in 1885 a discovery was made of a small Saxon chapel incorporated in the fabric of an old mansion now a farm-house, and it is recognised now that the inscription, which was found close to this house, refers to the chapel, which derives a special value from the circumstance. It is a small nave-and-chancel oratory, with chancel arch, the imposts of which, with their shallow and timid enrichment, are characteristic (*ante*, fig. 9). There are double-splayed r.h. windows north and south of the nave. The quoins show very slight traces of l. and s. treatment.

West of the Severn and in Herefordshire Early Norman churches are not uncommon, and several of these have been reported as Saxon. Of these Ashleworth and Upleadon (Gloucestershire), Ledbury, Eaton Bishop, Middleton-on-the-Hill, and Hatfield, near Leominster (Herefordshire), present no distinct pre-Conquest marks, though the blocked north door in the nave wall of the last-named is a primitive-looking feature. This doorway is shown in fig. 21 B in comparison

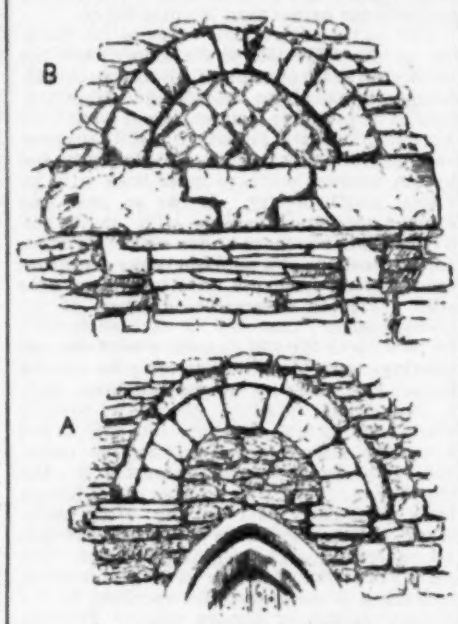

Fig. 21.—Blocked North Doors.

A. Miserden Gloucestershire (Saxon).
B. Hatfield, Herefordshire (Norman).

with the somewhat similar feature at Miserden, and the juxtaposition of the two is instructive. They both look at first sight equally rude and early, but when examined the details of A are all Saxon in type, while in B, the Hatfield example, the joggled lintel and the diamond pattern of the facing stones in the tympanum are both distinctively Norman, and the two have been therefore separated in the list. The wonderful Norman church of *Kilpeck* at the foot of its Early Norman moated mound, has preserved a bit of l. and s. work on the north side that is evidently a fragment of an earlier fabric of Saxon date.

Shropshire.*

Crossing the Teme, we are soon met near Ludlow by the well-known example of *Stanton Lacy*, famous for its well-wrought Saxon north door, with cross above it, and its pilaster strips. There is a Saxon north transept, and the north and west walls of the nave are of this date.

[*Clee St. Margaret*], one of a delightful group of hamlets in the bosom of the hills, shows in the north wall of the chancel some remarkable herring-bone work that would be unhesitatingly pronounced Norman were not similar masonry found not far off combined with Saxon features at *Diddlebury* or *Delbury*.

The much-restored Saxon work here consists chiefly in a blocked north door, similar to that of Stanton Lacy, enriched externally with strip-work, and a considerable extent of herring-bone masonry in the north-west portion of the nave and also in the western tower. There is a double-splayed window in the nave. Stottesden, with its remarkable font, has no pre-Conquest architecture, nor are indications of such to be recognised at Rushbury, or in the fine Norman church at Church Stretton.

Barrow, near Much Wenloch, presents us with a nave that is probably Early Norman, and a chancel arch and chancel of Saxon character. In the north-east corner of the chancel is a curious double-splayed light with mid-wall slab, and externally to north the mark of a pilaster strip. Beyond the Severn, at *Wroxeter*, the north wall of the nave of the church exhibits masonry so different from that of the rest of the (partly Norman) fabric, and so obviously built of Roman stones that a pre-Conquest date may fairly be ascribed to it. A blocked square-headed window carries out this impression.

Monmouthshire.

The church of [*St. Woolos, Newport*] (not seen by the writer), is reported on as possessing at its west end portions of what may be a pre-Conquest fabric.

Turning back to Worcestershire and Warwickshire, we find little to detain us, with the exception of the axial-towered church at *Wootton Wawen*, near Stratford-on-Avon, where the Saxon archways on all four sides of the (once central?) tower are well preserved, and exhibit strip-work and l. and s. treatment in the jambs.

[*Offchurch*], near Leamington, presents some curious features both in nave and chancel—in the latter r.h. lights with cable mouldings (north) and a serpent (south) carved externally over the heads, while the masonry of the nave appears older than that of the chancel and may very well be Saxon. Wyre Piddle and Overbury in the south part of Worcestershire have been claimed as Saxon. The latter is clearly Norman. It has Late Norman arcades cut through earlier walls in which are well-preserved original windows. These have a wide internal splay and also a slight external splay before the rebate for the shutter, but they are of Early Norman work, and may be compared with similar features at Ledbury in Herefordshire (*ante*, fig 6). Wyre Piddle church, close to which an interesting discovery was made of Saxon interments,* has a plain chancel arch constructed on the core and facing system, and hence Norman rather than Saxon.

There must not be passed over the fine specimen of herring-bone work at Tamworth, on the facing of the inclined plane of access to the upper part of the earthen mound crowned by its shell keep. This has been claimed as Saxon, but the masonry, like the mound itself, is really Early Norman. The work resembles that on the Norman keep at Guildford, Surrey, but is more neatly wrought.

District VI.—North of the Midlands on the western side of the country, with one exception, the writer has seen no pre-Conquest examples of architecture, though Saxon carved stones are not infrequent. Saxon work, however, exists on the interesting site of *Heysham*, near Lancaster. The present west door of the parish church seems Saxon, and this character is still more decidedly impressed on the old north door, which is preserved in the churchyard. Close above Heysham Parish Church is the ruined chapel of St. Patrick, a very elongated rectangle in plan, without a chancel. This has been claimed as Irish work, and the character of the site, which there is not space to describe, makes this ascription a very reasonable one. The principal feature of the chapel, however, a narrow south door, is of Saxon form, and in a Saxon rather than an Irish position, and it resembles that at Somerford Keynes, Wilts, shown in fig. 16 *ante*. The building is at any rate certainly pre-Conquest. With this notable exception, the whole of District VI., up to the border of Scotland, is singularly poor in the particular work with which we are here concerned, and we may turn from it with advantage to the exceptionally prolific district on the other side of the country.

LETTER FROM PARIS.

The closing of the Great Exhibition, which was to have taken place on November 5, has been put off until the 11th, and very possibly a few more days, until the 15th, may be added. The question of what is to be done with the various buildings now becomes a very urgent one, yet it appears that nothing has yet been absolutely decided as to which buildings will remain and which will be demolished at once. There is no doubt, however, that the foreign palaces in the Rue des Nations will, in any case, be pulled down almost at once, as soon as their contents have been cleared away, and the effective buildings on the Esplanade des Invalides will soon share the same fate; the question chiefly concerns the large palaces of the Champ de Mars. The Architect to the City of Paris, M. Bouvard, proposes to demolish all the constructions on the Champ de Mars and transform

* See Cranage, "The Churches of Shropshire," Wellington, 1894, &c., for a full notice of all early features in the county.

* "Associated Societies' Reports," 1888, p. 424.

the whole of this extensive ground into a fine public park, but no decision can be arrived at until the matter has been taken up and discussed by the Paris City Council, and its consent obtained under conditions to be agreed on. The city of Paris has a great deal to say on the matter, for the following reason. The Exhibition, or the State, took over from the city, for the purposes of the present Exhibition, the Palais de l'Industrie, the Pavilion of the City of Paris, the Palaces of Fine Arts and Liberal Arts (which occupied the Champ de Mars, and were demolished to give place to the present buildings), the Galerie des Machines, and the Dome Centrale. In exchange for the Palais de l'Industrie the State handed over the new Petit Palais des Beaux-Arts, the large Palace remaining the property of the State; but nothing was given in exchange for the other buildings mentioned, and from these buildings the Municipality used to draw an annual revenue of 16,000*l.* from rentals of the various buildings to public and private shows, such as the Concours Hippique, the annual Salon, the Velodrome and concert-halls, restaurants and cafés, and other objects for which they were let. The city, therefore, requires a legitimate compensation, and will either demand a large sum down as an indemnity, or require the preservation of the present buildings and the right of employing them for letting out as before. It has, however, already been decided that the two splendid winter gardens on the river bank, opposite the Rue des Nations, will be handed over to the city to do as it likes with, either to let them remain in their present position or to re-erect them at Passy. The fate of the Galerie des Machines and the Salle des Fêtes also hangs in the balance, and is a difficult matter to decide. The Machine Gallery, which cost 5,000,000 fr. to erect, will cost nearly 1,000,000 fr. to demolish, and if this gallery goes, the Salle des Fêtes, which cost a large sum of money and served no very great purpose, will have to go also. The question of demolishing will rest to a great extent on the terms on which portions of the buildings were built, for certain portions were constructed *en location* with materials supplied by contractors for the time of the Exhibition only, and these conditions will also probably give rise to much discussion and many difficulties.

There has been considerable strife and discussion at the Ecole des Beaux-Arts during the past three weeks, when the half-yearly examinations for the admission of pupils have been taking place. The candidates for admission have been strongly putting forward their grievances regarding the manner in which their drawings and written papers are examined by the Jury whose duty it is to select those candidates thought worthy of admission to the school studies. They complain that the examination is being made more difficult each year, much more difficult than it should be for supposed beginners in the art and science of architecture, that this being so, every justice should be given to the young candidates as regards the careful examination of their drawings and papers sent in during the examination, and that such careful consideration is not given. The Jury is composed of thirty members, but it has been found that only five of the members were present this year to go through 548 drawings and papers, which work of examination was accomplished in three hours only. The candidates rightly declare that they cannot accept the decision given by such a small Jury in such a short time, and refuse to go through the second oral portion of the examination. The matter has been referred to M. Legues, the Minister of Public Instruction, but no decision has yet been made. The candidates who were accepted in the first portion of the examination have now decided to go through the second portion, but the students generally have submitted the following proposals: that no exterior mark on the drawings or papers sent in should in future reveal the names of the candidates or their professors to the members of the Jury; that all the drawings, clay modelling, &c., should be exhibited to the public in order that the general opinion may ratify the decision of the Jury and allow no opportunity for favouritism. Some of the members of the school studios have publicly condemned the action taken up by the candidates.

The fine new buildings of the Ecole Nationale des Arts et Métiers at Lille were inaugurated on the 15th inst. This building, which has taken twenty years to construct, not by reason of its size, but on account of certain difficulties and delays, was decided upon in 1880 after a competition in which fourteen towns, including Paris, were asked to put forward their claims and all the advantages and inducements they could offer. Lille, the centre of metal, wood, and textile industries, was chosen as offering the best advantages, and after a competition amongst architects, the plans and designs of Mr. Batigny, of Lille, were chosen for execution on an immense piece of ground given to the State by the town of Lille. The building is Renaissance in style, it is simple and severe, but its lines are charmingly relieved by sculpture from the hands of MM. Cordonnier, Fagel, Mabile, Darcq, and Laoust.

The Bibliothèque Nationale at Paris is at last receiving attention, and the architect, M. Pascal, is busy at the work of construction of the various additions to be raised on the extensive ground which cost the State so much money to acquire some years ago. The building for receiving and storing the collections of dailies and periodicals is nearly completed, but the chief interest lies in the proposed new large public reading-room to be built near the Rue Vivienne, a hall to be 140 ft. long by 100 ft. wide, intended to accommodate 300 readers.

The Prefect of the Seine has given his decision with regard to the second line of the Metropolitan railway, to go from the Place de l'Etoile to the Place de la Nation. This new line will be 11 kilometres long, and its cost is estimated at twenty-seven million francs.

The Commission des Habitations à Bon Marché of the Seine Department has opened a competition between landlords and architects of sanitary and economical dwellings constructed at Paris since January, 1896. The competition will close on November 30, and prizes of from 500 fr. to 4,000 fr. will be awarded to the owners of the houses selected by the jury; the architects of these houses will receive awards of silver and bronze medals.

The German Government has honoured the following gentlemen connected with the organisation of the 1900 Exhibition with various grades of the Order of the Red Eagle and the Crown:—MM. Alfred Picard, Delaunay, Belleville, Georges Berger, Henry Roujon, Bouvard, Edouard Détaille, Henri Chardon, Arago, Bonnier, Bourdon, Picou, Masson, Detourbet, Molinier, and Guyenet.

The important question of demolishing the walls of Paris is being carefully looked into, and the Minister of Finance is bringing forward a scheme for suppressing the walls to the west of Paris and annexing to Paris the suburbs of Boulogne, Neuilly, Levallois-Perret, Clichy, and Saint Ouen, with an aggregate population of 180,000 inhabitants. This scheme, as soon as it is decided upon, will provide an opportunity for important speculative operations, as the demolishing of this portion of the fortifications will bring into value an enormous quantity of ground for building purposes, worth very little at present owing to the restrictive regulations regarding building on the military zone around the walls, but destined to make an extraordinary advance in price as soon as these restrictions are taken away. Speculative builders and contractors are keeping a watchful eye on the scheme, and the owners of the ground in or near the military zone are unwilling to make letting leases of any long specified duration. The realisation of this scheme, with that of "Paris *port-de-mer*," now also on the *tapis*, will provide plenty of work for the building and other trades.

On Saturday last the Académie des Beaux-Arts proceeded to the election of a successor to the late painter Vollon. M. Dagnan-Bouveret was elected by twenty-two votes, against seven for M. Ferdinand Humbert, five for M. Cazin, two for M. François Flameng, and one for M. Lhermitte. (This was at the third *scrutin*; probably the voting was more even at the first turn.) M. Dagnan-Bouveret may still be classed among the younger generation of French artists, having been born in 1852; but he has done a great deal of work. Though a pupil of the Ecole des Beaux-Arts and of M. Gérôme, he is not a painter of Classic predilections, nor did he enter on the usual course of study at Rome. He was known at first only for a class of *genre* paintings, not of the most admirable kind, such as "Le Noce chez le Photographe"; but he soon abandoned this for a higher line of work. Among his more serious pictures are "La Bénédiction des Epoux," the well-known "Bretonnes au Purdon," the "Conscrits," and, recently, the mystical painting of the Last Supper. He has kept quite apart from any school of artists, and pursued his own independent course. He has received many official honours, including the Medal of Honour of the Salon of 1889.

The works at the Théâtre Français, which are in an advanced stage, have been carried on with increased activity the last few days, as M. Guadet, the architect, declares that in accordance with the desire of the Government the theatre is to be ready by December 29 and to be opened on the evening of that day. This, however, hardly seems possible. It may be mentioned by the way that the Government seem to have abandoned the idea of depriving the Comédie Française of the paintings it possessed before the fire, and placing them in the Louvre. The paintings and sculpture will find their place in the new theatre, including the celebrated statue of Voltaire by Houdon, which will be placed in the public foyer.

An interesting exhibition, opened with a philanthropic object, is a collection of portraits of dramatic and lyric artists. Among the 300 works in this small exhibition may be mentioned, among many of insignificant interest, a fine portrait of Talma by Delacroix, one of Mlle. Mars by Gérard, that of Regnier by Elie Delaunay, that of M. Mounet-Sully by M. Jean Paul Laurens, and that of Sarah Bernhardt by M. Gandara.

A street improvement long required is at last in the way to be carried out by the widening of the Place des Petits Pères and the Rue de la Banque, long hemmed in by a large building which has at length been demolished. The new Hôtel des Examens of the Paris Municipality, which occupies a part of the site of the old Marché Saint-Germain, has been completed. M. Dupré is the architect of the building, the red and white brickwork of which gives a little colour to the dull quarter between the Place St. Sulpice and the Boulevard Saint-Germain. Commemorative tablets near the entrance record the fact that the celebrated fair of St. Germains occupied the site till the end of the eighteenth century, and that the then new market was built there, in 1813, from the designs of MM. Blondel and Luçon.

M. Ernest Hiron, a sculptor of merit, is dead, at the age of fifty. He was a pupil of Aimé Millet and of Bastet. The death is also announced of M. Jules Perin, an antiquarian distinguished for his researches in reference to old deeds and MSS., and whose advice was much sought after by the "Vieux Paris" Committee. He was sixty-six at the time of his death, and had been for a long time a contributor to the journal *Le Bâtiment*, in which he treated with unusual ability all legal questions connected with architecture and building.

ENGINEERING SOCIETIES.

The Institution of Junior Engineers.—The annual general meeting of this Institution was held on October 27 at the Westminster Palace Hotel, the retiring Chairman, Mr. Basil H. Joy, presiding. There was a large attendance of members. After the usual preliminary business, the Council's report on the work of the past year was presented and adopted. It stated that the net increase in membership had been thirty, the membership roll now numbering close on six hundred. M. Gustave Canet, of Paris, and Professor W. E. Dalby, of London, had been elected honorary members. The Institution Premium for the best paper read by members during the session has been awarded to Mr. E. W. Porter, Assoc.M.Inst.C.E., for his paper on "A Comparison of Railway Bridge Structures of Moderate Dimensions and of Methods of Determining their Working Loads." Seven meetings had been held and eleven visits paid to works, apart from the visits arranged in connexion with the summer meeting at Newcastle-upon-Tyne and Sunderland. Reference was also made in the report to the fifteenth anniversary dinner and to the conversazione. The Institution had been represented at the receptions given last June by the "Société des Ingénieurs Civils de France" in connexion with the Paris Exhibition. A list of donations to the library was appended, followed by a copy of the accounts. From the latter it was noticed that the office fund, which has been in existence for several years, makes but slow progress; it was started with the object of providing the means for opening an office and reading-room, but it would appear that some substantial contributions are needed before this can be carried into effect. This matter was subsequently discussed at the meeting very

Two Sketches in Venice.

fully, and is to receive special consideration by the Council. The scrutineers reported the election of the following new officers and members of Council:—Chairman, Mr. Percival Marshall; Vice-Chairman, Mr. Ernest King; hon. librarian, Mr. Lewis Rugg; hon. auditors, Messrs. Adam Hunter and A. W. Marshall; secretary, Mr. W. T. Dunn; members of Council, Messrs. Louis F. Awde, W. Rushworth Beckton, H. Norman Gray, and W. G. Wernham. Messrs. W. B. Keen & Co. were re-elected chartered accountants. A hearty vote of thanks was accorded the retiring officers and Council, and was acknowledged by Mr. Joy, who inducted his successor into the chair. The proceedings closed with the announcement of the visit, on November 3, to the Mill-bank-street station of the London Hydraulic Power Supply Company, and of the inaugural meeting of the new session, when Sir Lowthian Bell would deliver his Presidential address.

TWO SKETCHES IN VENICE.

ONE of these sketches represents one of the two doorways of the Seminario Patriarcale built by Baldassare Longhena about 1670. The doorway itself is in white marble, the plinth of the building is in rough granite with rough-cast walls above; a charming piece of colour. The coat of arms is carved from a single block of stone about 3 ft. high, surmounting a plain doorway. There are many others similar in character in Venice.

GRAMMAR SCHOOL EXTENSIONS, SOLIHULL.—At a meeting of the Governors of the Solihull United Charities recently, it was decided, subject to the sanction of the Charity Commissioners, to spend nearly 4,000*l.* on additions to the Solihull Grammar School. The extensions will include class-rooms, dormitories, laboratory, &c., and the present accommodation will be increased to 200. Plans of the proposed extension have been prepared by Mr. H. A. Chatwin, architect.

BURNLEY TECHNICAL INSTITUTE COMPETITION.

THE opponents of the competition system will find in this long-drawn-out competition another example with which to point a moral and adorn their tale. With the best intentions on the part of the promoters and assessor, the result is not satisfactory. In March of this year the "instructions," which had been carefully prepared under the advice of the assessor appointed by the Corporation—Mr. Alfred W. S. Cross, F.R.I.B.A., 58, Conduit-street, London, W.—were issued to (we believe) twelve selected architects. No premiums were offered, but each architect who submitted a design in accordance with the conditions was promised "an honorarium of twenty guineas." The author of the selected design was to be employed to carry out the work on the usual terms, unless the scheme should be abandoned or postponed beyond a certain date, in either of which events a fee of 100*l.* was to be paid him in full settlement of his claims. The accommodation demanded was on an extensive scale, and included really three schools in one, namely, a technical institute, a higher grade school, and a pupil teachers' centre. The site has a considerable slope from front to back, and this added greatly to the difficulty of producing a satisfactory plan, although in the hands of a clever man it might prove an advantage in this respect rather than otherwise. In any case, however, it must increase the cost of the building. The acceptance of any design was conditional on the possibility of obtaining from a responsible builder a tender to carry out the work "for a sum that shall not exceed the proposed expenditure by more than 10 per cent." As the proposed expenditure was only 40,000*l.*, the limit of cost was, therefore, 44,000*l.*, exclusive of furnishing.

Ten designs were received in this first competition, but not one of them could, in the opinion of the assessor, be carried out for the stipulated sum, while the cost of some of them was estimated by him to be more than double the proposed expenditure. The ten designs are now exhibited at the Town Hall, Burnley, and it is clear that, notwithstanding the statements of the authors of these designs, the cost would in every case exceed the stipulated amount. The competitors are not entirely to blame for this. The fact is that the Corporation wanted too much for its money, and this is proved by the issue of instructions for a second competition, in which less accommodation was required, although the proposed expenditure remained the same.

Three designs were selected by the assessor as being, on the whole, the best of those submitted—namely, No. 3, by Mr. J. W. Beaumont, Manchester; No. 5, by Mr. W. A. Quarmby, Burnley; and No. 7, by Mr. Thomas Bell, Burnley. In all these the buildings are arranged in the form of a hollow rectangle, with a central hall in the middle dividing the quadrangle into two courts; but while Mr. Beaumont has placed his weaving and spinning departments in a basement extending under the central hall and the two courts, Mr. Quarmby and Mr. Bell have placed them in a separate building of one story behind the main building. The latter arrangement is better, although more costly; the lighting under Mr. Beaumont's arrangement would be far from satisfactory. Of the three designs we should certainly consider Mr. Bell's entitled to the first place. Its architectural character, of the fashionable English Renaissance type, is good, though not distinguished, the location of the departments on different floors has been carefully considered, and the plans are fairly compact. Mr. Quarmby has adopted a freely-treated Renaissance of Spanish Plateresque character, and must be congratulated on having produced a clever design, which is well shown by a pen-and-ink perspective done (if we mistake not) by a well-known hand. Mr. Beaumont has studied

economy in his elevations, and his design has little to recommend it; the perspective, however, scarcely does it justice.

Of the other designs, No. 1, by Mr. G. R. Rawcliffe, of Burnley, does not call for comment; but No. 2, by Mr. J. Mitchell Bottomley, of Leeds and Middlesbrough, has some good points, the cloakrooms being well arranged and the elevations not without merit, but the building has a large frontage and would be costly. No. 4, by Messrs. Woodhouse & Willoughby, of Manchester, has the same general arrangement as the three selected designs, but is not so compact; the area covered by the main building measures about 250 ft. by 150 ft., which is considerably in excess of the area covered by any of three selected designs. The weaving and spinning departments, as in Mr. Beaumont's design, are arranged under the central hall and the two courts. The exterior is of pleasing character, in the authors' usual style, and is shown by an extremely able perspective—a wash-drawing in Indian ink. Messrs. Briggs & Wolstenholme (No. 6) have produced a good exterior design, but the planning is not satisfactory, many of the corridors being badly lighted and the rooms not being arranged to the greatest advantage. As far as external design is concerned, Mr. W. H. Thorp, of Leeds (No. 8), deserved, perhaps, the first place in the competition, but the planning is much less satisfactory. Messrs. Stones & Stones, of Blackburn and Darwen (No. 9), show a building with a frontage of 300 ft., as against the 220 ft. of Mr. Bell's design; the front has an imposing appearance, with its three stories and attic, but the design is clearly out of court on account of its cost. Design No. 10, by Messrs. Cheers & Smith, of Blackburn and London, has a somewhat straggling plan with dark corridors, and an exterior of coarse Renaissance type with extraordinary parapets to the two low towers.

The assessor's report on the designs placed the Committee of the Corporation in a difficulty. Not one of the designs could be carried out for the stipulated sum or within a reasonable amount in excess of it, and not one of them was, in the opinion of the Committee, equal in plan to the draft scheme which Mr. Cross had prepared before the issue of instructions to the competing architects. The Committee under the circumstances would have been pleased, we understand, to end the matter by accepting Mr. Cross's scheme and employing him to carry it out, but this course Mr. Cross very properly declined to accept, as it is contrary to professional etiquette. The facts of the case were submitted to the Council of the Institute of Architects, and the result was that Mr. Cross was asked to complete his plans of the several floors, reducing the accommodation to some extent, and that the three architects whose designs were considered the best in the first competition were invited to prepare elevations, sections, and a perspective, showing the external treatment they would recommend for Mr. Cross's plans. In other words, a second competition was instituted for external treatment only.

This way out of the difficulty, as might have been expected, has not proved altogether satisfactory. It was only fair to the authors of the three best designs in the first competition that they should be invited to the second, but as the second competition was for external treatment only, surely the authors of the best exteriors submitted in the first competition ought also to have been invited, even if they did not receive the same remuneration as that given to Messrs. Bell, Quarmby, and Beaumont. Mr. Thorp ought certainly to have been invited, as well as Messrs. Briggs and Wolstenholme and Messrs. Woodhouse and Willoughby, whose elevations were all better than those of one, at least, of the selected designs.

In the second competition the three selected architects have all adopted the same style of treatment which characterised their first designs, but while Mr. Beaumont has done better, Mr. Quarmby and Mr. Bell have been less successful. The unnecessarily lofty second story (without windows) which Mr. Quarmby has adopted has marred his second design very considerably, and Mr. Bell has simplified his design, so that, although not without a certain dignity, it is not far removed from the commonplace.

The Corporation of Burnley and the assessor deserve the thanks of the profession for having acted throughout this difficult competition in a perfectly honourable manner, and we heartily sympathise with them in their disappointment that the result has not been so successful as their efforts deserved.

THE ARCHITECTURAL ASSOCIATION.

FRENCH AND ENGLISH CATHEDRALS.

THE second ordinary general meeting for this session of the Architectural Association was held at No. 9, Conduit-street, Regent-street, on Friday evening last week, Mr. W. H. Seth-Smith, President, in the chair.

The minutes of the last meeting having been read and confirmed, the following gentlemen were elected as members of the Association, *i.e.*, Messrs. J. D. Robertson; W. A. Hodges; J. F. Schneider; D. W. Stewart; David Seth-Smith; H. Black; N. F. Barwell; T. R. Bridson; J. S. Brocklesby; J. O. Cook; I. S. Davies; W. W. Ellison; J. B. Fulton; G. Gould; R. H. Greig; H. C. Hollis; H. R. Houchin; J. R. Sykes; J. H. Waterworth; R. F. Wheatly; A. E. Bullock; P. R. Berry; G. Bune; H. W. Cathie; H. Collis; G. F. B. Daniell; C. René Harrison; D. B. Hedderwick; W. B. Hellard; F. Hibbard; D. M. Rees; W. A. S. Pettit; H. F. Murrell; A. F. Murray; H. S. Morran; H. Kenchington; W. B. Jemmett; D. B. Hart; R. G. Elwes; D. W. Crawford; A. S. Millar; C. S. Goodwin; G. Walker; L. Rawles; L. T. Moore; F. J. Sherrin; R. J. Howard; S. B. Wates; E. G. Theakston; R. E. Stewardson; I. T. Sifton; E. F. Reynolds; G. Unsworth; T. L. Walker; T. W. Watkins; H. J. Wyeth; A. E. R. Gill; A. B. D. Langl; A. E. Hyams; and H. Hyams.

The Chairman said he desired to propose a cordial vote of thanks to Mr. G. B. Carvill, Hon. Secretary, who undertook the management of the conversazione which took place the previous Friday in the King's Hall, Holborn Restaurant. As they knew, their Hon. Secretary took infinite pains to make such entertainments a success, and the one just given was a great success.

Mr. Carvill, having briefly acknowledged the vote of thanks, announced that a meeting of the Discussion Section will be held on November 2, when Mr. H. Rose will read a paper on "Church Bells."

Mr. Francis Bond, M.A., then read the following paper on "French and English Cathedrals," illustrated by a large number of lantern slides:—

"An Englishman, just returned from Boulogne, was asked what were his salient impressions of France. Two things, he said, filled him with astonishment. One was that the children in the streets spoke French; the other that the soldiers had red trousers and blue tunics, thus reversing the laws of nature. It is from this insular, not from any cosmopolitan point of view, that I approach the subject of the French cathedrals; some of the French cathedrals, for there are a great many. It is possible to be on fairly intimate terms with all the English cathedrals, of which there are no more than thirty-four, even including those churches which have been elevated to the rank of cathedrals in the present reign. In France, on the other hand, it is impossible to be even on bowing terms with the churches which are at present, or which have been, of cathedral rank. The south-east of France swarms with little cathedrals; even their names will be unfamiliar to many, such as Castres, Cavaillon, Dax. I have even had to explain sometimes where Séez is. Obviously, our survey must be limited to but a few of this vast number.

Let us look in imagination, first at the English cathedrals, and secondly at the more important of their sisters in France. I think I may take it that anyone who has visited and studied our English cathedrals does not afterwards mix them up in his memory; he can always keep each picture distinct; that is, the English cathedrals have the quality of distinction and individuality. For example, we never confuse with one another designs, though on closely analogous lines, such as those of the choirs of Beverley, Lincoln, Ely, Southwell, Worcester, and Salisbury. In the same way the *tout ensemble* of the interior of Ely stands out apart sharply and clearly from that of the interior of Lincoln or Gloucester, or York. Yet more individual are the exteriors. Exeter reminds us of nothing else; nor does Lincoln or Lichfield, or Canterbury, or Wells. Now this is by no means the case in France; or at any rate, not to the same extent. Here are two interiors; one is the choir of Amiens, the other the nave of Auxerre. The differences between the two designs are so slight, that, without care and thought, it is really difficult to remember which is which. And this is so with a great number of churches in the style of the *Ile de France*. Three years ago I spent a month among them; and I must confess to finding them somewhat monotonous and uninteresting. The fact is they were all to a large extent versions of Amiens. In Amiens every problem of French Gothic had been solved consummately. In no way could Amiens be bettered; and so this—the greatest of all the great works of the French Gothic—inspired, dictated, and controlled the great mass of Gothic design even to the furthest ends of the country. So, when I reached St. Quentin, Chalons-sur-Marne, Troyes, Nevers, Auxerre, Tours, Rouen, Clermont-Ferrand, Limoges, Toulouse, Narbonne, I was constantly finding myself in the presence of something which I had seen before. Evidently, about 1220, the thought of the best builders throughout Northern France flowed in the direction of the Amiens design; and the ideas which produced Amiens produced, or were soon to produce, similar work throughout the length and breadth of the country. In England, fortunately or unfortunately, we never had an Amiens. We never had one final summing up in one building of the best in our English Gothic. Wells choir had been an enormous advance about 1175. St. Hugh's design at Lincoln fifteen years later, though he came from Witham, near Wells, is in no way based on that of Wells. His choir, in turn, was a vast advance, yet no copy was made of it. There was never in England a superior person like Amiens to set the fasnion. Not only English Gothic was non-French, but cathedral after cathedral went on its own sweet way, copying nobody. For that very reason, small as many of our cathedrals are, they are for their number—at any rate, as far as my opinion goes—more interesting than the cathedrals of the style of the Ile de France.

On the other hand, we must admit that there are French cathedrals which have enormous individuality. Nothing was built like Chartres before it; nothing has been built like it since. Rheims, too, stands out alone. Then there is a group of three cathedrals with double aisles of unequal height; Bourges was built first, being commenced about 1190; Beauvais and Le Mans were improved versions of Bourges. Le Mans, had it been completed, would, I think, have eclipsed even Amiens. Then there is a fine group of Transitional Churches which have marked individuality—Paris, Sens, Senlis, Noyon, Soissons, and Laon; to which we may add the noble choirs of St. Remi and Notre Dame of Chalons-sur-Marne. Travel yet farther from Paris, and new and strange, yet beautiful varieties of Gothic will be found. The lovely 'Norman patois' is seen in the choirs of the Abbaye-aux-hommes and Bayeux; at Séez and Coutances; delightful links between the Ile de France and England. Travel far west; and in the choir of the Cathedral of Chalons-sur-Saône, at Semur and Notre Dame de Cluny will be found another Gothic, bold, vigorous, and independent. Nor will the achievements of what the French call Plantagenet Gothic, designs wrought in English realms, not by English brains, ever fail to leave sharp and distinct recollections of lovely work, from St. Serge at Angers to the magnificent cathedral of Poitiers, commenced about the year 1162 by our English Queen Eleanor. Going down south, an Englishman finds himself confronted more and more with churches strange, novel, and interesting. Some of them, like Toulouse and Bordeaux, have an aisled choir and an aisleless nave—a combination magnificently successful at Bordeaux. At last, at Albi, aisles disappear altogether; the whole cathedral becomes one continuous hall; stupendously impressive. If there is monotony in the Gothic of the Ile de France, there is none when its limits have been crossed. There is absolutely nothing in English Gothic to parallel these immense differences of French design. To the faithful who have learnt their Amiens, Poitiers and Albi are a bolt from the blue.

Another important difference is that the French cathedral in those districts which the tourist is most likely to visit is wholly Gothic. The exceptions are very few. At Nevers a western apse of the eleventh century survives, in striking contact with a thirteenth century Gothic cathedral. At Beauvais the fall of the central spire preserved from rebuilding an archaic nave of the tenth or eleventh century;

and Romanesque sub-structures remain at Bayeux and Chalons-sur-Saône. But out of our thirty-four English cathedrals, Peterborough and Durham are still mainly Romanesque; while large masses of Romanesque work remain incorporated in Bristol, Canterbury, Carlisle, Chester, Chichester, Ely, Exeter, Gloucester, Hereford, Lincoln, Norwich, Oxford, Ripon, Rochester, St. Albans, Southwell, Winchester, and Worcester. So that of our older cathedrals only Lichfield, Salisbury, Wells, and York are purely Gothic buildings. An extraordinarily clean sweep was made in the thirteenth century of what Romanesque there was in the Domaine Royale; and its corresponding abundance in the English cathedrals forms one of the most striking points of difference between the mediæval architecture of the two countries.

If we look at the two sets of cathedrals chronologically we shall find equally marked differences. In England each period is fully represented by important cathedral work. In France it is not so. The period of Transitional or Rudimentary Gothic is well represented in England at Oxford, Ripon, Canterbury, and Chichester; in France, by the cathedrals of Paris, Laon, Sens, Soissons, Noyon, Senlis, and to some extent by Chartres. Our lancet and geometrical work is represented by the great group of Gothic cathedrals of the Ile de France type. Our Tudor work ran on simultaneously with the French Flamboyant. In the preceding period much grand work was done at Bristol, Carlisle, Chester, Ely, Lichfield, Lincoln, Oxford, St. Albans, Wells, Worcester, Gloucester, Canterbury, and York. In many parts of France work stops almost wholly from about 1328 to 1440, when the French were engaged in the most calamitous intestine conflicts, and for a hundred years were at war with ourselves. This period of anarchy, warfare, famine, and plague was no fit seed-ground for architecture. The tale of those days is told quite clearly in many a French cathedral. You see quite distinctly where the works were suddenly stopped in the fourteenth century. You see where they were resumed late in the fifteenth century. When they were resumed, however, a great change had come over the spirit of Gothic architecture. In the natural course of things the choir, with some exceptions, for instance Amiens, had been built first. Then the nave was completed. (At Clermont, Limoges, and Moulins the naves were only finished in the present century, that of Narbonne still remains a skeleton.) As a rule, it was just when nave and choir had been finished that war, civil and foreign, stopped the work. In most cases the transepts had been left to complete later; and so it is that we have the constant juxtaposition in a French cathedral of an Early Gothic nave and choir with a flamboyant transept. In fact, this may be regarded as the normal type of a French Gothic cathedral. It is seen at Paris, Sens, St. Remi, Amiens, Limoges, Beauvais, Auxerre, Troyes, Senlis, Séez. Very magnificent these flamboyant transepts are. Whatever be the failings of Late Gothic, we cannot afford to despise the composition of such transepts as those of Beauvais and Limoges any more than that of such spires of our own as Coventry and Louth, of equally late date.

Externally the French Cathedral is, above all, a town church. It rises out of the huxtering of the *place* or the squalor of the narrow lane. In front perhaps is a sahara of dust, as at Amiens, Auxerre, Paris, Rouen. From no point of view can the grouping of the whole of its masses be seen. Nowhere in France is there such a comprehensive view as that from the north-east of Salisbury or Lincoln. It is seen only in parcels. Sens, for example, has an arid space in front; to the north it is blocked by private houses; to the south by the Archbishop's palace; to the east by the Grande Seminaire. Peeps and glimpses only can be got of transepts, choir, nave, and apse. A general view is impossible.

It is a surprise to see the south side of Bourges rising out of the emerald sward. The peaceful close and elms of Salisbury, the pools and springs of Lichfield and Wells, the wooded slopes and river of Durham, the encircling precincts of ancient canons' houses embowered in foliage and creepers, are all wanting in France. In France we see the bare picture; in England we see it framed. In England such Cathedrals as Canterbury, Durham, Ely, Lichfield, Lincoln, St. Albans, Wells, York, nobly dominate the town and landscape. With us the houses are low, and give the Cathedral value; in France they are much loftier, and strangle the great building in their close confines. Indeed, the real greatness of the building is often quite unrecognisable from outside. Mr. Garbett in his 'Principles of Design' quotes an eminent authority who honestly thought Salisbury larger than Amiens. His error was pardonable. Following the south side of Amiens one sees three things only—the nave, the transept, and the apsidal choir. Following the north side of Salisbury one sees nave, porch, nave, great transept, choir, eastern transept, choir, retro choir, Lady Chapel. This bold handling of the masses infinitely increases the apparent magnitude of an English Cathedral; nor must one forget the gulfs and abysses of shadow in the deeply-recessed flanks of such Cathedrals as Lincoln and Salisbury, to which it gives rise. Especially is this the case where the plan with double transepts has been adopted. It is a strange fact that this, the archiepiscopal plan, appeared first in France; at Cluny and its daughter abbey, Souvigny. It found no favour in its own country, but its adoption in England gave us the finest exteriors we possess.

A French Cathedral is essentially a town church; the English Cathedral dwelt in a *rus in urbe*. To these delightful closes and precincts yet another charm is added in their cloisters. Cloisters were natural in cathedrals which, like Gloucester or Bristol, were served by Benedictine monks or by Augustinian canons. So beautiful an accessory, however, was the monastic cloister that it was added as an *objet de luxe* at Chichester, Exeter, Hereford, Lincoln, Salisbury, and Wells; all served by secular canons. In Northern France, on the other hand, cathedral cloisters are far less common. Among better known examples may be mentioned those of Rouen, Laon, Noyon. In England, too, we elaborated first at Worcester a circular chapter-house, and out of this developed the polygonal form. These polygonal chapter-houses, of which so many glorious examples remain, *e.g.*, at Southwell and Wells, have been described as the greatest triumphs of our mediæval architecture. I do not remember to have seen one of them in France.

Where the exterior can be seen, it is seen to be hugely tall; its outlines however, especially as one looks eastward towards the apse, are cut up in the most perplexing and vexatious manner by a forest of stone stays—permanent stone scaffolding—the flying buttresses. One's reason tells one that each has its special function, but the eye does not brook to be dictated to by the reason. After the tangled intricacies of such an apse as that of Amiens or Nevers, the eye rests with deep content on the simplicity of the north side of York.

We have seen how porch and eastern transept break up the monotony of the long flanks of our English cathedrals. The French cathedral also, as first designed, had grand shadow effects in the bays between the buttresses; buttresses which owing to the greater height and span of the vaults within, were of much greater projection than our own. Unfortunately these effects too were sacrificed almost everywhere. The walls of the nave-aisles were pierced through, and chapels were inserted from buttress to buttress. The buttresses practically disappeared as a factor of the exterior; and the flanks of the nave presented one shadowless monotony. This may be seen at Paris, Laon, Nevers, Dreux, Amiens, Autun, almost everywhere. We have had but one nave treated in this disastrous fashion; that of Chichester.

Another disability which afflicted the French designer was that the interior being all in all to him, and the sublimity of the interior being dependent mainly on its altitude, the external roof which covered his vault was so enormously lofty that no towers which could be set upon it were adequate to dominate its masses, unless they were positively gigantic in height. It was only by carrying up spires to the vast altitudes of those of Cologne or Strasbourg that such an exterior could be brought together into unity. In some cases, as at Chartres and Coutances, the attempt was made, and successfully. At Beauvais it was attempted; but the central spire, 510 ft. high, collapsed. At Amiens, the *chef d'œuvre* of all the French cathedrals, the failure of the exterior is supreme. Over the crossing was erected a spire of wood; though 357 ft. high, it has the effect merely of a pinnacle. As for the western towers of Amiens, though effective from the west, they are from all other points of view absurdly inadequate. In England, vaulting ambition did not overleap itself.

The Lincoln people kept their roof so low that the three towers have a superb effect. What must Lincoln have been like when it had its three spires as well? the central spire 525 ft. high, a mark far out at sea!

Not only in the elevation of his vaults, but in the composition of his tower-groups, the Frenchman had ambitions amazing to the Englishman. The Englishman never got further than translating into Gothic the Abbaye-aux-hommes. The Frenchman essayed to translate into Gothic the tower-groups of Cluny. Laon was designed for seven towers, Chartres for eight. No such groups were ever completed. And so French Gothic is, to a woeful extent, a study of unfinished exteriors—unfinished where groups had been designed of seven, eight, or nine towers; unfinished often where, as at Amiens, three steeples only had been planned. We see something of what was designed in the tower-groups of Laon, and in a simpler form at Autun, Semur, and Notre Dame de l'Epine, Chalons; or, with intermixtures of modern work, in the Cathedral and St. Ouen, Rouen, in Bayeux, and, above all, in Coutances, the finest tower-group in France. Taking the French exteriors as a whole, one is left rather well content with English Gothic.

But if we turn to the grand façades to north, south, and west we have little, I am afraid, which will bear comparison. A few of our transept-façades, *e.g.*, those of Beverley and Lincoln and the north transept of York, have no superiors anywhere. (It is strange that we have no façade of first rank after the middle of the thirteenth century.) As has been pointed out, the final and most elaborate effort of French Gothic was made in the completion of transepts. What can be more accomplished than the composition of the north transept of Limoges? How commonplace it would have been in the hands of our contemporary English masons! If, on the other hand, we turn to the west, the French façade immeasurably surpasses anything of ours, Peterborough excepted, which is *hors concours*, being unique. In France they wanted to display statuary, but the grand façade does not sink to the level of an open-air reredos, as at Lincoln, Salisbury, and Wells. Nor can I conceive any French architect so lost to dignity and self-respect as to let his cathedral sink away westward to the ground after the parochial fashion of Winchester, Norwich, Chester, Gloucester, and Worcester. Sometimes, but rarely, he built two symmetrical spires, as at Séez, Angers, Bayeux, Coutances; or two unsymmetrical ones, as at Chartres. Sometimes he built a pair of western towers, as at Paris, Rheims, Bourges, Noyon, Tours, Laon. It is possible that these also were intended to carry spires. (The addition of spires is needed to counterbalance the heaviness and undue horizontality of the present façade of Notre Dame, Paris.) If he could not complete two western towers, at any rate he built one, as at Auxerre, Soissons, Limoges, Troyes, Albi. If he did not get his tower at the west, then, as at Exeter, it finds place at the end of the transept, *e.g.*, at Bordeaux, Le Mans, Nevers. Of our west fronts, that of York is most on French lines and the most successful, always excepting Peterborough. The evolution of the French grand façade from Senlis through Notre Dame to its perfect consummation in Rheims is a fascinating subject which I must pass over.

In such a great façade the central idea is that it is none other than the portal of the House of God Himself. Here there are none of those 'holes for rats and mice,' as some one unkindly described the west doorways of Wells. These vast cavernous portals, studded with legendary imagery, are the glory of the French façade. The triple portals of Paris, Auxerre, Amiens, Rheims, will be familiar to many of you; while at Bourges the western entrances are no less than five in number. It is true that the comparative insignificance of the western entrances to our cathedrals is to some extent redeemed by lateral porches breaking most effectively the lines of our long low ministers, such as the north porches of Southwell, Hereford, Salisbury, Wells, and Worcester, the south porch of Canterbury, and the Galilee porches of Ely and Lincoln. But France, also, has noble examples of lateral porches—the lovely hawthorn porch of Bourges; the statued porches of Chartres; and the superb flamboyant

porches added to Louviers and Albi, the latter incomparable among the works of the Later Gothic. On the whole, as regards the façades of naves and transepts alike, we must bow to the superiority of the French.

When we pass within all is changed. We step into vast spaces of height incalculable; so overwhelming in their impression on the senses that it seems inconceivable that they should have been designed by the pigmy man who walks beneath. Nowhere does one so feel at once the insignificance and the greatness of man; he is overwhelmed by his own work. It is not to the beautiful but to the sublime that the genius of France has attained. Her Gothic cathedrals stand apart on a higher plane than all the other works of man; they are the supreme artistic achievement of our race. At Lincoln the choir is 74 ft. high beneath the vault; at Amiens it is 140 ft.; Beauvais is nearly 154 ft. (one Lincoln choir might well be superposed on another inside Beauvais). It is true that our English cathedrals have the best of it in length. Winchester is 56 ft. longer than Amiens, and very beautiful effects are produced by the long-drawn succession of arch after arch rapidly passing out of count. In fact we may say Frenchmen and Englishmen alike, in building a house for Him Who is without length of days, sought to produce the impression of infinity—in England by suggesting infinite length, in France by suggesting infinite height. Ours was the easier task. And this impression of interminable distance was aided yet again by the numerous screens, often carrying organs, which crossed the church; of which two remain at Ottery St. Mary's, while greater churches had three or more. How greatly an interior is foreshortened by the want of a substantial screen is seen at Tewkesbury. At Gloucester and at Exeter the organ-bearing screens add enormously to the apparent length of the church. Screens have been swept away from the French cathedrals almost universally. Their length, already inadequate to our English eyes in proportion to the greater span and greater height of the central nave is grievously curtailed. A beautiful example remains at Notre Dame de l'Epine, near Chalons-sur-Marne. A sumptuous flamboyant screen is the glory of the Church of the Madeleine at Troyes. The Renaissance screen of Limoges Cathedral still survives, but is thrust back against the western wall. Albi alone retains in all its integrity the whole of its screen and choir-enclosure.

What, perhaps, strikes an Englishman most is the homogeneity of the whole internal design of nave and choir. He has been accustomed to nothing of this, except, perchance, at Salisbury. To him a cathedral means a hybrid, a mongrel building—a collection of scraps and patches. It is a revelation to see a harmonious whole, like that of Paris or Amiens or Bourges or Rheims or Chartres, or Poitiers, Laon, Soissons, Noyon, Tours, Troyes, Coutances, Séez. At Chichester, for instance, he has seen one design in the nave, a second in the retro-choir, a third in the porches, several designs in the nave chapels, one in the south transept, and another in the north. Equally mixed up and discordant are Rochester, Hereford, and St. Albans. York has one design for the transept, another for the nave and choir. Canterbury choir is absolutely disconnected from and independent of nave and transepts, and so on with the rest, Salisbury only excepted.

This, which is the greatest blot æsthetically in our English cathedrals, is archæologically their greatest charm. When one has seen one bay of the nave of Salisbury or Amiens one knows what to expect in each of the rest; there are to be no surprises, no novelties. In such a cathedral, too, as Amiens or Salisbury there are few archæological problems to unravel, few nuts to crack; the constructional history of the cathedral tells itself clearly and unmistakably. But a man must think much and often, and even then he will require Mr. St. John Hope's assistance, to ascertain how Rochester Cathedral grew. I remember finding Wakefield and Ripon cathedrals more interesting than stately York. Here and there, like the Frenchmen, we were iconoclasts. At Lichfield, Salisbury, Wells, and York the builders cleared away every scrap of Romanesque from the face of the earth. But everywhere else they left masses of Romanesque work standing. Often we have a Romanesque nave with a Gothic choir, as at Southwell; sometimes Romanesque below and Gothic above, as in the choir of Hereford; sometimes blocks of gaunt Romanesque protruding still from Gothic surroundings, as at St. Albans. Parallels may be found in France, but they are rare. Toulouse has a Gothic choir, but never succeeded in rebuilding its twelfth-century hall nave. The Romanesque nave of Le Mans was thought too good to be pulled down. Gothic is superposed on Romanesqne at Bayeux, at Chalons-sur-Saône, and at the abbeys of Souvigny and Brioude. But, on the whole, we may say that English cathedral architecture is generally a study of contrasts; that of France a study of harmonies.

If we turn to the internal elevation we shall find a marked difference between the French and the English treatment. The English cathedrals are low; the loftiest vaulted cathedral, Salisbury, is 85 ft. high. They sink downward till 74 ft. is reached in Lincoln choir, and 70 ft. in Exeter. This conditions the English elevation. For an effective interior the piers and pier arches must be lofty. But where the vaults are low there is no room for lofty piers and arches. The piers have to be short and squat, as at Wells and Lichfield. What a change to turn from these to the acute, soaring arches of Amiens, Clermont, and Narbonne! Both in France and England the internal elevation usually consists of three members, the pier arcade, triforium, and clearstory. The French disposition of these—which is seen at Westminster and Beverley—is to give half the height to the pier arcade and of the other half to assign one-third to the triforium and two-thirds to the clearstory. Some such proportions prevail almost everywhere in France. In England the proportions are seldom good. The clearstory, as a rule, is too low and the triforium too lofty.

The greatest difference, however, as regards proportion is the relation of height to span. With us, except at Westminster, Norwich, and Beverley, the height is usually only about twice the span. In France, though the central aisles are much wider than our own, they are usually three times as high as they are broad. It is beyond question that in the matter of proportion English Gothic erred; and proportion, as some one has said, is the life-blood of architecture.

As I have said, we were often inclined to sacrifice the clearstory to the triforium. The fact is, there was in England a very genuine love for the triforium, and a great and well-founded belief in its capacities for artistic development. The French, I think, at no time set much store by it. In great churches, such as Chartres, Limoges, and the choir of Auxerre, the triforium is of a very simple character. Our rich triforia, such as those of Chichester retro-choir, Lichfield, Lincoln, Salisbury, Worcester, Westminster, Beverley, and York, are the exception in France. The elaborate triforium of Séez is one of the proofs of the presence of English influence in the design of that beautiful little cathedral; and when it does occur it is seldom a blind story proper. As a rule, as in Amiens nave, it is blocked up behind by a solid wall. In this way the Frenchman deliberately gets rid of the pits of shadow and gloom which lie at the back of the arcades of such an open triforium as that of Lincoln presbytery. Frequently, after the middle of the thirteenth century he lowers the aisle roofs and glazes his triforium, as in Amiens choir, Clermont-Ferrand, and St. Ouen, Rouen. But this is no gain. The clearstory at Clermont-Ferrand is quite tall enough without having a triforium added to it. One instinctively desiderates a three-story elevation; the Frenchman has reduced it to an elevation of two stories. In twelfth-century Gothic an elevation of four stories had not been uncommon. It is seen at Laon, Soissons, and Noyon, and survives in part in Paris. It is seen in transition in Rouen Cathedral and in the fine Church of Eu. The extra story is gained by vaulting the aisle in two stories instead of one. The additional story has the effect of increasing the apparent height of the church. The objection to it was that it curtailed the pier arcade and clearstory.

Looking east or west, unity is the mark of the French design. The French cathedral is a house at one with itself. This is largely due to the absence of a central tower and of the obstructive piers on which such a tower rests. Our exteriors owe much to the central towers; our interiors are ruined by them. Canterbury nave and choir are as much disconnected as if they were in separate counties; it is not one but two Canterbury Cathedrals. It is rarely so in Northern France, except in Normandy and Burgundy. The beautiful church of Sémur is constricted into a mere tunnel, in order to allow of a stone central spire. At Bourges, at Bazas, and Nevers even the transept was omitted; at Albi the aisles were omitted as well. Nothing was allowed to stop the uninterrupted flow of the main lines of the church from west to east.

In plan the French cathedral attaches more closely to the type of Hereford, Exeter, Winchester, Salisbury, and Wells than to the simple parallelograms of Lincoln and York. It is indeed from the east end of Wells only that we can form any conception of the mysterious, intricate, everchanging vistas and perspectives which fascinate one in a French chevet. The eastern glass walls of Lincoln and York are plain prose indeed to the poetry of the eastern endings of the French cathedrals. And when it is remembered that some of the French cathedrals have double aisles to their nave, and that nearly all have their aisles flanked by continuous chapels, it will be seen that there is a romance about the progress up a French cathedral from portal to altar which is here unknown. If, however, we have not the seven chapels of the chevet of Amiens, the eleven of Orléans, the seven of Le Mans, we have by compensation the eastern transept—a most picturesque substitute. And while we are speaking of transepts it is worth noting that the English transept has usually an aisle on the eastern side only, on which side alone altared chapels were practicable. Beverley and Salisbury are examples. Even in religious art the Englishman was ever practical and economical. I do not recollect these lopsided transepts in France.

As regards detail, I think we may say that the Englishman sometimes bestowed on his detail a loving care which is not always found on the other side of the Channel. The Frenchman's mouldings are few and bold. The outline of the pier arches is not marked, as with us, by an emphatic hood-mould. His piers, on plan, are simple in comparison with those of Wells, Lichfield, and Exeter. But the Englishman, as soon as he had begun to learn the new lesson of Gothic, burst at once into an intricacy of delicate, refined mouldings such as the Frenchmen never dreamed of. Take a first-class example from either country—the cloister of Mt. St. Michel and the Beverley staircase—and you will see the difference. In statuary our case is hopeless. I can show you nothing to compare with the statue of the Virgin in the group of the Annunciation, which stands in the central doorway of the façade of Rheims. In foliated capitals nothing, perhaps, was ever done so good as the twelfth-century capitals of Sens, Laon, Soissons—truly architectural in treatment. In later days marvels of foliage were produced—conventional foliage of the highest beauty at Wells and Lichfield; naturalistic work in the Chapter House of Southwell. With the latter we may compare the fine capitals of Notre Dame, Cluny, and the superb example from the nave of Rheims. Honours may be said to be divided.

'It is not so above.' Look at the vault. What a poor, thin, ineffective culmination and climax for the riches below! Think of the vaults of the naves of Lincoln and Lichfield, of Norwich, Tewkesbury, and Winchester, and, above all, of that of Exeter, fastening down and tying the whole building together, like the banded lid of some ancient strong-box. Particularly lamentable is the absence in France of the longitudinal ridge-rib; more than anything else this binds together a cathedral's disconnected bays and enforces unity. Examples of it do occur, *e.g.*, at Souvigny and St. Riquier, but they are rare. The reason, I think, is not far to seek. The French, to lessen the thrusts, always inclined to build their vaults domical. Introduce a ridge-rib and it will be found to wabble up and down in a most distressful manner, as, indeed, it does in the great transept of Lincoln and in Southwell choir. Only at the very end, when it was too late, did the French repent, as at Abbeville and St. Riquier, of their failure to develop the vault.

And so we get back to our normal attitude of complacency. We do not get the 'grand Nature' in our English cathedrals. They are human and lovable; foreign travel does not spoil one for them; one ever comes back to the sweet loveliness of Lichfield and Wells and Exeter with renewed delight. Amiens, Clermont, Narbonne are something more than human; it is awe, admiration, almost terror they excite; they seem superhuman; not built for mortal men by mortal men. There is nothing overwhelming or overpowering in the

ancient churches any more than in the scenery of England; it is a little country, a peaceful, restful country; no Alps;

'No grand Nature;
All the fields
Are tied up fast with hedges, nosegay-like;
The hills are crumpled plains; the plains pastures;
And if you seek for any wilderness,
You find at best a park.'

The English cathedrals were made for England.'

The Chairman said they were very much indebted to Mr. Bond for his extremely interesting paper, which had been prepared and read under trying circumstances. Mr. Bond had been very unwell for some time past, but he had made a great effort to fulfil his engagement, and they were very much obliged to him.

Mr. E. S. Prior said that Mr. Bond had shown an acquaintance with both English and French Cathedrals, which all of them must envy. Moreover, he had treated the subject of the great churches of both countries with a sympathy and kindliness which made criticism almost misplaced. Mr. Bond deserved to have converted them to his views, but as no doubt he expected them to be not quite persuaded, he (the speaker), as a bit of a heretic, would raise a point or two. Mr. Bond had been very happy in not defining English and French cathedrals, but offering them in one lot, as it were, without prejudice. The view had been—he would not say superficial, but photographic, in that Mr. Bond had let his hearers apply their mental camera to what were only superficially cathedrals. The definition had been "let cathedral equal large church," and while he (the speaker) would not quarrel with that definition, he thought it was carried too far when the lecturer spoke of the "Archiepiscopal plan" of Cluny Abbey. As a matter of fact, the plan of Cluny was distinctly monastic. Mr. Bond had said that "cathedrals like Gloucester or Bristol" were served by Benedictine monks or by Augustinian canons. But that was an error, for both monks and canons had gone from Gloucester and Bristol when the buildings became cathedrals. They might call this a small matter, but when it came to a comparison between French and English cathedrals, Mr. Bond made the point that in view of the French façades the poorness of the western termination of English cathedrals was shown in such cathedrals as Winchester, Norwich, Worcester, Chester, and Gloucester. Now, the last two were not cathedrals, and the others were primarily monks' churches. The monks had the chief hand in building them, and being parts of conventaul buildings, they could not be put upon the same plane as French cathedrals, which were built as entities and not as part of monastic establishments. The French cathedral was the Bishop's seat in an established town—the crown of its honour—and got its impetus of building from civic traditions and communistic aspirations. There could be no real comparison between the English and French cathedrals which did not take note of the peculiar fact that half of the English cathedrals were not this, but originally monastic churches. So, in claiming superiority for the west end of the French cathedrals, comparison should have been with the really secular churches of England, such as Hereford, Wells, Salisbury, Lincoln, Lichfield, Exeter, York, in all of which evidence or the existence of a western façade would be found. Mr. Bond's argument fell away when it is seen that the secular cathedrals of England had their western façades in their degree not inferior to the French. It was the monastic church builders who in certain cases did not think of the western front, since their church was part of a conventual building. Perhaps he was doing Mr. Bond an injustice in thinking that he had a prejudice against Wells Cathedral. The front of Wells was wider than any continental façade except Rouen, and there was also this to be said, viz, that those great cavernous porches in the French buildings, which were magnificent in themselves, were rather dark for the display of sculpture, and in the English climate that drawback would be still further emphasised. At Wells this had been avoided, and the cathedral front nobly fulfilled its purpose of sculpture presentation, and, moreover, it had the "grand nature" in building. True, Professor Freeman had called it a towel-horse, but then Ruskin had called King's College Chapel a cradle! What little things great men could say! Mr. Bond was still more abusive to poor Wells, for had not he likened its proud front, with its array of storied imagery, to a modern architect's reredos? As to the title French, Mr. Bond had again taken a wide definition. At the time the French cathedrals were building, they were built in a comparatively limited area, viz., the Ile de France, though there were a few outside that area. But with those exceptions it was just as logical to speak of cathedrals like Poitiers, Bordeaux, and Albi as French as it would be to call Spanish, German, and Italian churches French because the dominion of France at one time extended all over those countries. Still, he agreed that there was a great extension of the true French style after the year 1250, that, however, not only in the neighbouring districts of France, but widely in other countries too—in Spain, Germany, Sweden, and some said Cyprus. But could Mr. Bond explain how this was managed?—by what means there came sudden wide diffusion of the French style, copies of Amiens which Mr. Bond had indicated as rather deadly dull? He (the speaker) had his theory, which was that it came by the architect, who just at that time appeared—the man who designed drawings capable of conveyance for the purpose of copying style. When the designer of drawings appeared then architecture languished. As to figure sculpture, Mr. Bond had dealt with our English work also in a photographic way. It was quite true that if, remembering what one had seen in France, one went to Lichfield, Winchester, Canterbury, and Salisbury, one might be ready to admit that the case of English sculpture was "hopeless;" but it was unfair to the thirteenth-century sculptors that they should be charged with the foolish things put into our cathedrals by nineteenth-century "restorers." It should be remembered that there were to be seen fragments of real and beautiful thirteenth-century figure sculpture, *e.g.*, at Wells, at Lincoln, and until recently at Oxford; and proof of the existence of excellent figure sculpture work was to be seen in the Eleanor Bronzes, Westminster Abbey. Could it be said, with such fragments before them, that the case of English thirteenth-century sculpture was hopeless? In his opinion the answer was an emphatic No. He very much enjoyed Mr. Bond's remarks about the really great French Gothic churches, and of such magnificent works as Chartres and Notre Dame; Mr. Bond put it extremely well when he said that they convicted us of man's insignificance and man's greatness. But was that "grand nature" of building to be found solely and entirely in France? Was there none of it in England? He had been in Durham Cathedral, and in the nave of that building he thought the noble nature of building was as magnificently displayed as it was anywhere this side of Egypt. The transept of Hexham Abbey, now unfortunately in the hands of restorers—could they say that in this was no grand nature of building? And in many Yorkshire façades, which had been mentioned, or partly mentioned, by Mr. Bond, such as Guisborough, Ripon, and Selby, that grand nature of building was to be found. It was not only a matter of scale; it was displayed in those comparatively small works. They were gods that built so, yet were they only workmen!

Mr. Hugh Stannus, in proposing a vote of thanks, said he was entirely at one with Mr. Prior as to the greatness of the nave of Durham Cathedral, but he gathered that Mr. Bond was dealing with Gothic and not Romanesque, and therefore presumably he did not touch on Durham with the fulness he would have done had he been dealing with Romanesque work.

Mr. Alexander Wood seconded the vote of thanks, and said he would like to refer to the really very interesting contrast between the square ends of cathedrals in this country and the apsidal terminations in France. There were exceptions, of course, and in this country there were Romanesque apses just as there were in Normandy; but in the Early English period in this country we got almost universally the apse cut off and a square end instead. No doubt, as Mr. Bond had said, the apse was a most artistic feature of French churches. The builders in this country undoubtedly had the idea of an apsidal termination in their minds. At Durham the Chapter House had been very much altered, but there was an oblong chapter-house which once terminated in an apse, and at Worcester there was the circular chapter-house. In this country our churches were mostly monastic, and we had abbey-churches of equal importance to the cathedrals, as at Bury St. Edmunds, St. Albans, and others, which were outside the cathedral limits.

Mr. Arthur S. Flower said that, with reference to the supposed inferiority of English doorways, he should like to hear more on the question of why English people seemed to have got a preference for lateral entrances rather than for what might be called axial entrances. The prejudice, or feeling, or whatever it was, seemed to extend all through our parish churches, as well as our cathedrals and abbey churches. Whatever doors there were, the south or north door was usually the most important one. He had heard the idea expressed that it was a Teutonic racial peculiarity to enter by the side of the building and not by the west end, and that the western entrance was a Keltic arrangement, and was favoured by the Normans, but was dropped out—just as the apse was brought in for a time and was dropped out again. But there was a good deal we did not understand as to the reason why side entrances were more important in English and German churches than in French ones.

The Chairman, in putting the vote of thanks to the meeting, said it was a remarkable feat that in the course of an hour they should have had such an able comparison between English and French churches so fully and so beautifully illustrated. The Association had recently had presented to it a beautiful set of exterior and interior views of English cathedrals, and it would be of immense advantage to students if they could get a similar set of French churches. He should like to emphasise Mr. Bond's remarks about Albi Cathedral. There was an extraordinary originality about that wonderful brick building, and its magnificent screen so full of Spanish feeling. Any student who had an opportunity should not fail to visit that building as well as Limoges and Abbeville. He was interested in Mr. Bond's remarks about the independence of character shown in our English cathedrals. That national characteristic was as prominent to-day, and perhaps they had a little too much of it. Mr. Bond had referred to two other characteristics of English work, viz., an absence of a sense of proportion and a want of logic. As to logic, he (the speaker) was rather glad if our want of it had resulted in the production of such beautiful interiors and mouldings as English cathedrals exhibited. English taste, as expressed in the richness of detail and in our mouldings, was a point in which English cathedrals certainly scored. Mr. Bond referred to the relative proportions of the nave, arcade, triforium, and clearstory in French and English cathedrals in disparagement of the latter, but he (the speaker) was so thoroughly English as to think that the proportions between these parts of some of our cathedrals were better than those of France. It was quite true that the French buildings showed a sublimity and dignity which could only be attained by height, though in regard to proportion of the parts he thought the English buildings superior. Mr. Bond's criticism of the triforium was very just; we lost somewhat in the extreme contrast between the triforia and clearstories to be seen in some of our cathedrals. The deep, cavernous, and richly-moulded triforia were a painful contrast to the light clearstory above, as in Lincoln, for instance. Most people would agree that screens across a church, if not too obstructive, did lend distance to an interior; it was like a beautiful hill in the middle distance in a landscape, but if carried too far it obstructed the vista and quite defeated the object in view. In the vote of thanks he felt they should include Mr. Osborne Smith for so kindly and ably working the lantern that night.

The vote of thanks having been heartily agreed to,

Mr. Prior, on the invitation of Mr. Bond, made some additional remarks as to side porches in English churches. He said that it was largely due to the tradition of the Saxon church. The Saxon church was a chamber church, with projections or porches from the side as well as from the west end. But these porches were not only traditional in plan; they were necessary for the services and legalities of village life, and so they appeared in our monastic churches because the naves of many were parish churches. Again, the English climate was more inclement than the French, and when westerly gales were blow-

ing, the north or south would be more sheltered than the west, and so side entrances had in this country a practical purpose. Since in our monastic cathedrals there were ceremonies connected with the west end, it might often have been due to the inclemency of the English spring that a porch was put on the south side, as at Canterbury and Sherborne, in order to get away from the elements. A curious document existed which bore out that view. A dedication ceremony took place at Durham and the monks got wet; shortly afterwards the Galilee was put up as a shelter.

Mr. Bond said he desired to express his thanks to Mr. Osborne Smith for the manner in which he had worked the lantern that evening. On the subject of proportion he had not given sufficient heed to his words in saying that it was a matter of taste. Mr. Aston Webb recently quoted to the Association School of Design the late Mr. Pearson's remarks as to churches, mentioned in the Life of the late Archbishop Benson. The architect said that when one went into a church one should ask oneself not "Is it grand, is it magnificent, is it splendidly built?" but "Does it send you on your knees?" Our low English cathedrals did not produce that same overwhelming impression, nor did they embody the same worship as the French buildings with their great height, and on that ground he thought the French cathedrals were superior. It was quite true, as Mr. Prior had said, that he had not confined himself to cathedrals; where he could better illustrate his views he had gone to collegiate churches. Mr. Prior had decidedly made a point in saying that he (the speaker) should, in a strict comparison, have properly excluded all the monastic cathedrals of England, viz., that he should have contrasted with the French cathedrals which were secular the English cathedrals which were secular. It was not the Gothic cathedrals abroad that made the best impression on one; not even Amiens did. From more than one point of view Gothic was a decadence from Romanesque. As to transepts, they were added to provide more chapel room, but there was another reason, viz., the mania that existed for central towers. As to the square termination of our cathedrals, he had read Mr. Prior's book, and the question of the square east end was one of the points upon which he disagreed with the author. The square east end was said to be due to the Kentish missionaries, as all their churches had square ends. In Anglo-Saxon times there was the apse, but the Anglo-Saxon east end was square, and it might be taken as a survival of Saxon tradition. The tradition of the Western world was against the square end, and the apse for a time became almost universal. Then came in that band of Christian missionaries, the Cistercians who, coming with a tradition from Egypt of square east ends, revived what had been the practice in Anglo-Saxon times. The whole matter was extremely problematical. As to the origin of chapterhouses, Mr. Wood had given an interesting theory. Another theory equally ill-substantiated was that it was derived from the ancient baptistry, which in the early Christian church was almost universally circular. As to lateral porches, Mr. Prior seemed to think they were to shelter people from the weather, but, as he had pointed out in the paper, the porches were mostly on the north side, whereas if one wanted to put them on the lee side they would be on the south. On the average they were on the north side, and the reason for that, in his opinion, was that the village or town was more often on the north side. He agreed with Mr. Prior's other reasons, for, no doubt, these big porches were used for purposes of ritual, which were half-religious and half-secular—marriage and the payment of tithes, for instance. It was in some difference between mediæval English ritual and that prevailing abroad that one must seek for the origin of our great southern porches and our small western ones.

The Chairman announced that the next meeting would be held on November 9, when a paper would be read by Mr. L. L. Macassey on the "Legal Position of the Architect."

The meeting then terminated.

TECHNICAL INSTITUTE AND MUSEUM, WEST HAM.—The Technical Institute and Free Library at West Ham, which was destroyed by fire in October last year, was opened after re-construction on the 18th ult. A museum in connexion with the Essex Field Club, and which has been built adjoining the Technical Institute, was opened on the same day. The architect was Mr. S. B. Russell.

THE ARCHITECTURAL ASSOCIATION CONVERSAZIONE.*

THE Annual Conversazione took place on Friday, October 19, at the King's Hall, Holborn. The members and guests were received by the President and Mrs. Seth-Smith.

The exhibitions of the allied trades were not so numerous as on some of the previous occasions, but on the other hand, entertainments both learned and light were given on a larger scale.

The students' prize drawings of the past session were on view; these only represented the drawings placed in the various divisions, the studentship, and the classes of design, but they formed a goodly number, and, taken with the water-colour class studies, it may be assumed that the total amount of work completed by the students working in the Association is considerable, and speaks well for the success of all the departments of study. Exhibits of textile fabrics were shown by Mr. Alfred Stalman, among which were many interesting productions by the Canterbury weavers.

Mr. F. E. E. Schenck who, on a previous occasion, exhibited modelling for Mr. H. T. Hare's buildings, was represented by two circular plaques representing "Ironwork" and "Agriculture" for the Stafford Municipal Buildings, and six figure sketches for the Oxford Town Hall.

Mr. L. A. Shuffrey, generally associated with interior decorations, showed some new wall-paper designs.

A display of various tiles and pottery by Messrs. De Morgan introduced a bright piece of colouring at the end of the hall.

Mr. Nathaniel Hitch, the carver of many well-known church fittings, exhibited photographs of some of his executed work.

A collection of framed photographs, principally of old work, kindly sent by Messrs. S. B. Bolas & Co., formed a welcome addition to the decoration of the hall.

An interesting case of specimens of bookbinding by the students of the London County Council Central School of Arts and Crafts was much appreciated.

A *conversazione* is never complete without photographs taken by their own members, and in this respect the Architectural Association Camera Club had on view some good views principally taken during the last excursion.

During the evening Mr. Richard Kerr, assisted by Miss Kerr, gave demonstrations of wireless telegraphy and X rays, and at intervals they also performed Nikola Teslas's high voltage experiments. The lighter part of the entertainment was provided by the "Follies" Pierrot singers under the direction of Mr. H. G. Pelissier. The incidental music was given by the Bijou orchestra. The Conversazione was, as usual, very largely attended.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of this Council took place on Tuesday afternoon in the County Hall, Spring-gardens, Alderman Dickinson, Chairman, presiding.

Loans.—The Finance Committee recommended and it was agreed to lend Bermondsey Vestry 21,000*l.* for dust destructor and electric light installation; the Bethnal Green Vestry 8,750*l.* for paving works; the Clerkenwell Vestry 4,270*l.* for paving works; the Plumstead Vestry 650*l.* for the purchase of a site for a storeyard; the Poplar District Board 25,000*l.* for electric light installation and 640*l.* for the erection of a boundary wall; the St. George-the-Martyr, Southwark, Vestry 1,710*l.* for sewer works; the Hackney Vestry 3,980*l.* for baths and washhouses; the Holborn Guardians 3,370*l.* for alterations to laundry and provision of machinery, &c.

Clerk of the Council.—The General Purposes Committee reported that eighty applications were received for the office of Clerk to the Council, vacant by the resignation of Mr. Stewart. The committee recommended the appointment of Mr. Gomme, at present the head of the Statistical Department of the Council, to be the new Clerk.

The recommendation was adopted.

Tramways.—It was agreed "that the Council do make application, in the next Session of Parliament, for powers for the construction of tramways for electrical traction, between the present terminus of the London County Council tramways at High-street, Tooting, to the county boundary at Waterfall Bridge."

Battersea Bridge Buildings.—The Housing of the Working Classes Committee recommended, and it was agreed, that the estimate of 15,900*l.* submitted by the Finance Committee in respect of the erection of Battersea Bridge buildings be approved; that the work be executed by the Council without the intervention of a contractor; and that the plans, specification, bills of quantities, and estimate of 14,720*l.* be referred to the Manager of Works for that purpose.

Winter Garden at the London Hippodrome.—It was recommended by the Theatres and Music Halls Committee that the Council inform Mr. F. Matcham that they had no objection to the utilisation of a piece of ground at the side of the London Hippodrome for the purpose of a small winter garden.

Mr. M'Dougall moved that the recommendation be referred back. He said he did not quite know what a winter garden was, but he thought it was distinctly against the regulations of the Council that any premises should be licensed which did not have a direct view of the stage.

Mr. Purchese seconded the reference back.

The amendment was defeated, and the recommendation carried.

Mare-street, Hackney, Improvement.—The Improvements Committee recommended, and it was agreed, that in connection with the provision of accommodation for persons of the labouring class to be displaced by the Mare-street, Hackney, improvement, the Council do acquire for 2,350*l.* the site in London Fields, Hackney.

Metropolitan Sewers and Drains Bill.—The Parliamentary Committee reported as follows, the recommendation being agreed to.

"The object of this Bill was to amend the definition of the word *drain* in the Metropolis Local Management Acts, with a view to casting upon property owners the liability, which has been held to fall now on local authorities, of maintaining and repairing certain conduits constructed or altered without the sanction of the local authority or the late metropolitan commissioners of sewers to take the drainage of more than one building. The matter, which affects the local authorities and not the Council, was originally brought up to the Council on February 12, 1895, on representations made by such authorities. There appears to be considerable opposition to the Bill in Parliament, and, without troubling the Council in detail with the various efforts we have made, without success, during five sessions of Parliament, to carry out the wishes of the local authorities, we have to say that we feel unable to recommend the Council to take any further action. It will, of course, be open to the new borough councils, should they so desire, to themselves promote such a bill, which, as we have said, deals entirely with matters of local concern. We, accordingly, recommend—That the local authorities be informed that the Council does not propose to take any further action with regard to the Metropolitan Sewers and Drains Bill."

Holborn to Strand.—Architectural Features.—On the reception of the report by the Improvements Committee, Mr. Leon asked if it was possible to have small clay models of the different elevations of the buildings to be erected fronting on the Strand and on the Crescent-road.

Dr. Longstaff: I will make the suggestion to the Committee.

Theatres, &c.—On the recommendation of the Theatres and Music-halls Committee the following applications were agreed to on certain conditions:—

Cinematograph-house proposed to be erected on the concrete flat outside the back wall of the stage at the Alhambra Palace (Mr. J. G. Buckle for the Directors).

Heating the New Grand Hall, Clapham Junction (Messrs. Hancock & Dykes for Mr. E. Munt).

Imperial Hall, Grovevale, Goose Green, East Dulwich (Mr. J. W. Brooker for the Hall Finance Syndicate, Limited).

Bar, Morton's Theatre, Greenwich (Mr. A. Roberts for Mr. A. Carlton).

Parish Hall, Sewardstone-road, Bethnal Green (Mr. E. Hoole for the Rev. J. E. Watts).

Application under the 1894 Building Act.—The Building Act Committee recommended and it was agreed, that the Council, in the exercise of its powers under Sections 13, 22, and 41 of the London Building Act, 1894, do not consent to the erection of a block of residential flats on the south-west side of Park-walk, Chelsea, at the corner of Chapel-street.

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* Unavoidably postponed from last week.

to the lines, and with the open space at the rear, as shown on the plans submitted with the application of Mr. C. W. Stephens.

The Council, having transacted other business, adjourned.

Illustrations.

EASTERN TELEGRAPH COMPANY'S OFFICES: PORTION OF FAÇADE.

WE have already published the complete elevation of this building; we now give the enlarged drawing of a portion of the façade, which forms a kind of detail elevation.

The archway will be filled with a bronze and glass screen and doors. The figures in the spandrels are intended to represent electricity in connexion with telegraphy. The figures above the first floor represent the East and other countries.

The drawing, which was exhibited at the Royal Academy this year, is to be regarded as a preliminary study, and the design has since been revised and remodelled.

Mr. John Belcher, A.R.A., is the architect.

FRONT No. 59, BATH-STREET, GLASGOW.

THIS design forms the front of a house in Glasgow, and the drawing was exhibited at the last Royal Academy. It is a fine effective design in the upper portion, the only defect of which is that it seems to require a rather more powerful and massive treatment in the ground story, to form a base for the upper part of the design.

The architect is Mr. T. L. Watson of Glasgow, who informs us that he duly addressed to us, in response to our usual request to the architects of buildings about to be illustrated in our pages, a plan and description of the building; but up to the time of going to press these have not come to hand, probably owing to some of that irregularity or carelessness in the London Post Office which has caused so much comment during the last few months. We regret that the loss of his communication should have prevented his design appearing with the advantage of his own description and the addition of a plan.

ST. JOHN BAPTIST'S CHURCH, SAN REMO.

THE rebuilding of St. John Baptist's Church, San Remo, is now in progress, the former church having been destroyed by fire last year. The new church is being erected on a site, the position of which is considered more suitable than the old one. Heating chamber and mortuary are provided in the basement. The work has been let to local contractors, Messrs. Sappia & Vernassa, and local materials will as far as possible be used. The stone for the dressings is blue, from Bordighera, and Millesimo stone, and the walling of mixed blue and brown coursed wallstone. The roofs will be covered with tiles of the district of approved colour, and the tower roof with English north-country green slates.

The ceilings will be wagon shaped, boarded with moulded ribs. The floors, generally, will be of wood blocks, but the chancel floor, steps, and screen walls, will be of marble.

The glazing will be with lead lights of English manufacture. The plan of the building is arranged with a nave and chancel of equal width, north and south aisles, with vestry in the south. The organ loft is in the tower, but the organist will sit with the choir. The principal entrance is by the south porch, but there are three others, one of which is specially arranged for admitting invalids in bath chairs. It is intended to use local chestnut-wood for panelling the walls, screens, and other internal finishings.

The works are being carried out from the designs and under the direction of Mr. R. Knill Freeman, architect, of Manchester and Bolton, and Signor Gastaldi, of San Remo, has been appointed local superintendent of work.

The church will provide accommodation for about 275 people, and the plan is arranged with a view to future extension.

It is hoped that with favourable circumstances the new church may be ready for use next Easter.

ARCHITECTURAL SOCIETIES.

ARCHITECTURAL ASSOCIATION OF IRELAND.—A general meeting of the members took place at the Grosvenor Hotel on Tuesday evening, the 23rd ult., the President, Mr. Fred. Batchelor, being in the chair. Mr. R. M. Butler proposed, and Mr. T. Coleman seconded, the following resolution, which was unanimously adopted:—"That we, the members of the Architectural Association of Ireland, offer our sincere congratulations to Sir Thomas Drew on his election to the Presidential chair of the Royal Hibernian Academy. We recognise that in this appointment the architectural profession in Ireland has received a high honour, and we wish the Royal Hibernian Academy much prosperity under its new President." Mr. R. M. Butler then read a paper descriptive of "Architectural Association Excursions," in which he gave instructive accounts of the architectural features met with on the annual excursions both of the Irish and English Architectural Associations, interspersed with anecdotes of the mishaps and fortunes of the participants in the excursions. Mr. Walter Doolin, in proposing a vote of thanks to the lecturer, gave an account of the 1872 excursion of the London Association, in which he joined. Mr. Hudinan seconded the vote of thanks, and Messrs. Coleman, Allberry, Lynes, and Bradbury joined in the discussion which followed. A good collection of lantern slides illustrative of the paper was displayed by Mr. T. E. Hudinan.

BRITISH SCHOOL AT ATHENS.

THE annual meeting of the British School at Athens was held on Tuesday afternoon at the rooms of the Society of Antiquaries, the Right Hon. H. H. Asquith, M.P., in the chair.

The Hon. Secretary, Mr. G. A. Macmillan, read the Report of the Managing Committee, from which we extract the following passages:—

"Although the number of students has been less than in some previous years, the work of the School under the direction in Crete of the Director of the School, Mr. Hogarth, and in Athens of the Assistant-Director, Mr. Bosanquet (who, as mentioned in last year's Report, was appointed to take charge of the School in Athens while the Director was absent in Crete), has been profitably carried on. There were six students in all. Of these, Mr. J. C. Lawson, now Fellow of Pembroke College, Cambridge, came out for a second session as Craven Student; and Mr. F. B. Welch, of Magdalen College, Oxford, came out for a second session as Craven Fellow. The four new students were Mr. J. H. Hopkinson, of University College, Oxford, who came out with the Craven Fellowship; Mr. S. C. Kaines-Smith, of Magdalene College, Cambridge, who held the Cambridge Studentship offered by the Managing Committee; Miss O. C. Köhler, of Girton College, Cambridge; and Mr. D. Theodore Fyfe, who was appointed by the Committee to the Architectural Studentship.

Mr. Lawson continued to devote his attention to the folk-lore and traditional beliefs of the Greek people. . . . Mr. Welch, after completing in Athens his work on the minor antiquities found at Phylakopi, went in February to Crete with Mr. Arthur Evans, worked in the Museum at Candia, and travelled in the interior. Later, he was called to Palestine to report on the Ægean pottery found in the excavations of the Palestine Exploration Fund, and practically established the fact that not only Cypriote, but genuine Mycenæan vases were freely imported by the cities of the Philistine seaboard. In May Mr. Welch returned to Crete and watched the latter part of Mr. Hogarth's and Mr. Evans' excavations.

Mr. Hopkinson devoted his attention mainly to the history of vase-painting, but from February onwards took opportunities of travelling in the interior and in the islands.

Mr. Kaines-Smith and Miss Köhler worked chiefly in Athens, the latter attending the lectures of Dr. Dörpfeld and Dr. Wilhelm, while Mr. Kaines-Smith, after working at the relationship between certain types of engraved gems and the grave-stelæ, made various expeditions in Greece with members of the British and American schools.

Mr. Fyfe, who was appointed Architectural Student, has thoroughly justified the choice of the Committee by his admirable work in Crete, where he not only made the plans and surveys which lay within his special province, but also showed marked artistic talent in his water-colour drawings of the frescoes found by Mr. Evans.

The only excavations undertaken by the School this session were those in Crete, which were prospectively referred to in last year's report. Mr. Hogarth has worked with great success on the site of the town of Knôsos, and later in the cave at Psychro, which has been hitherto identified, as it now appears with reason, with the far-famed Dictæan Cave. At Knôsos, although a careful and systematic probing of the whole surface of the hill did not, as Mr. Hogarth anticipated, reveal the earliest cemeteries, yet the discoveries made were such as to justify amply the labour and expense of the undertaking. A series of primitive houses were found which contained masses of pre-Mycenæan and Mycenæan pottery. Many of the vases of the ware known as 'Kamaraes' were unique in shape and ornament, and represent a great advance on previous knowledge. Further evidence of the existence of Pillar worship in the period of Mycenæan culture was also forthcoming. Good Mycenæan painted vases and objects in bronze were found in some of the chambers, and later two unrifled graves in a cemetery of late Mycenæan and early Geometric period yielded many vases, as well as objects in gold, bronze, iron, and paste unlike anything previously found. The excavation of the Dictæan cave took place in May, and was rewarded by remarkable discoveries. Not only was there in the upper part of the cave abundant evidence of its sacrificial use, in the form of votive objects ranging from the late Kamaraes epoch to the later Geometric, but in the lowest depths of the cavern, where a subterranean pool extends among stalactite formations, the water-borne earth was found to be full of bronze statuettes, implements, weapons, gems, and articles of personal adornment, while even the natural niches in the stalactite formations were in many cases stocked with votive axes, blades, needles, and so forth. 'The frequent occurrence of the double Carian axe,' writes Mr. Hogarth, 'proves that we have here to do with the Cretan Zeus of the Labrys, and no question remains that in the Altar and Temenos, the votive niches, the 700 bronze objects, the multitude of vases (nearly 600 unused cups of one type alone were found), the libation-tables in stone, the implements in bone and iron, we have abundant evidence as to the cult practised in one of the earliest and most holy of Cretan sanctuaries.' A full preliminary account of these excavations will be published in the School Annual. The work will be continued in the coming session.

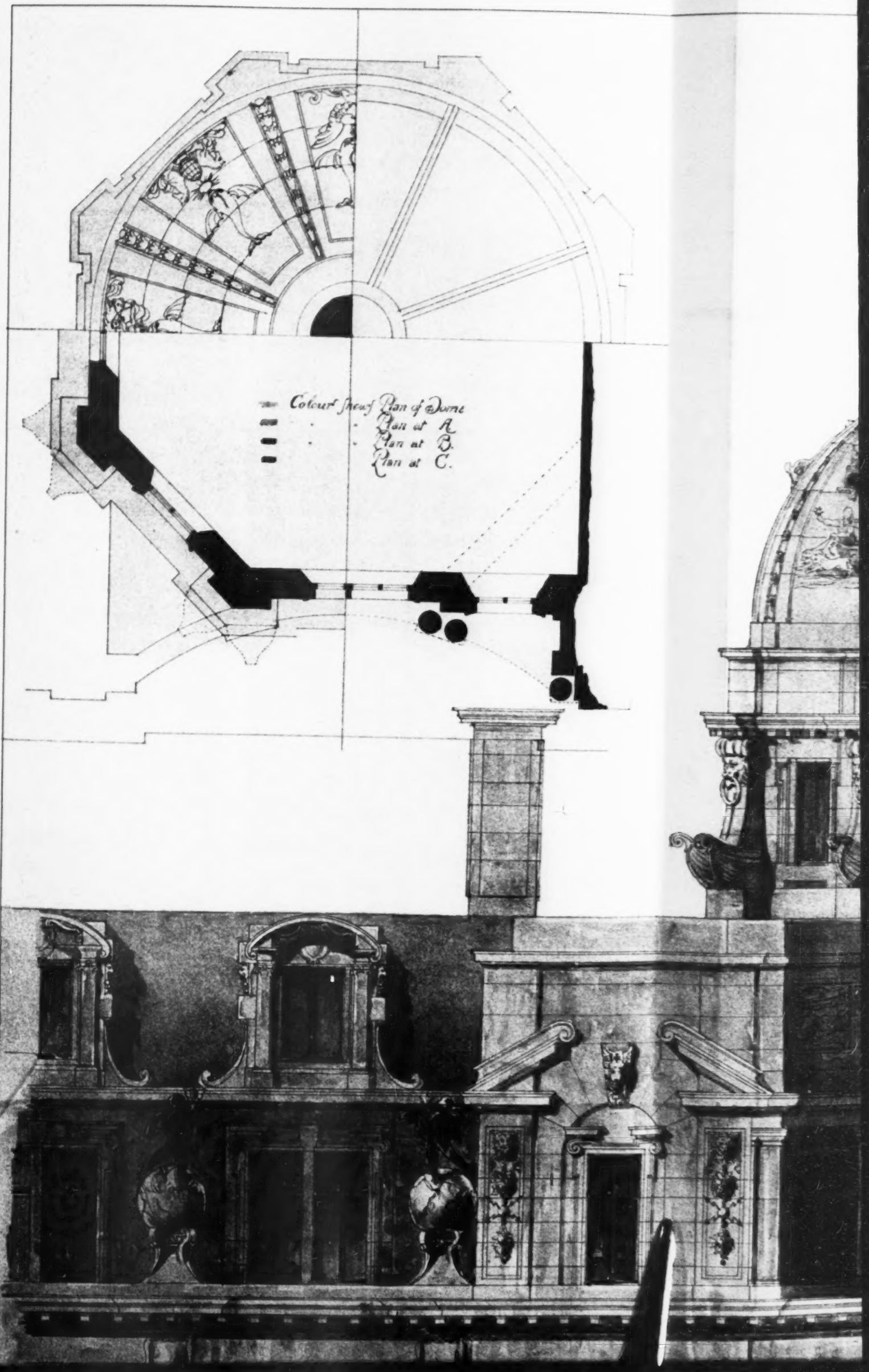
A passing reference must be made here to the brilliant discoveries made at the same time by Mr. Arthur Evans, working with the aid of the Cretan Exploration Fund, on another part of the site of Knôsos, where he was fortunate enough to light upon the remains of a great prehistoric palace which it does not seem fanciful to connect with the name of Minos. The most remarkable finds were a series of wall-paintings which are practically unique in the history of early Ægean art, and upwards of 1,000 inscribed tablets, in various forms of script, partly hieroglyphic and partly in signs of an alphabetic character, which form a most important addition to the seals previously found by Mr. Evans in other parts of the island, and cannot fail, when they have been properly studied, to throw welcome light upon the early history of writing. All friends of the British School must congratulate their distinguished associate, Mr. Evans, upon the results of his first season's work (in which he has been assisted by a former student, Mr. Duncan Mackenzie, as well as by the school architect, Mr. Fyfe), and express the hope that another season may prove as fruitful. . . .

The Committee is glad to be able to announce that the monograph on St. Luke's Monastery at Stiris, in Phocis, which represents the first instalment of the valuable studies on Byzantine Architecture in Greece made some years ago by two students of the School, Mr. R. W. Schultz and Mr. Sidney Barnsley, will shortly be published by Messrs. Macmillan & Co. Although the work has been unexpectedly delayed, it cannot be doubted that this volume, richly illustrated both with coloured plates and numerous sketches in black and white, will be welcome to all students of art and architecture. . . .

Mr. Hogarth, who was appointed Director of the School in 1897 for a period of three years, now retires from office, and the Committee take this opportunity of expressing their gratitude for the zeal and energy he has shown in fulfilling the duties of his office, particularly in the department of excavation, for which he was so well qualified by previous experience. He has completed the work at Phylakopi, in Melos, initiated by his predecessor, Mr. Cecil Smith; and has also conducted successful excavations on the site of Naucratis and, as has already been stated in this Report, on two sites in the island of Crete. In the hope that his valuable services may still be at the disposal of the School, he is to-day nominated as a member of the Committee.

Mr. R. Carr Bosanquet, a former student of the School, who has held the post of assistant director, with full charge of the work in Athens, during the past session, has now been appointed director. The Committee consider themselves most fortunate in having induced Mr. Bosanquet to accept an appointment, for which his thorough training in archæology, his long connexion with the School, and his zeal for its interests so eminently qualify him. They are confident that under his rule the School will not only maintain but improve its already high position among the foreign institutes in Athens.

The valued hon. secretary of the School, Mr. William Loring, who has done such splendid service since his appointment in 1897, informed the Committee early in January that he had volunteered for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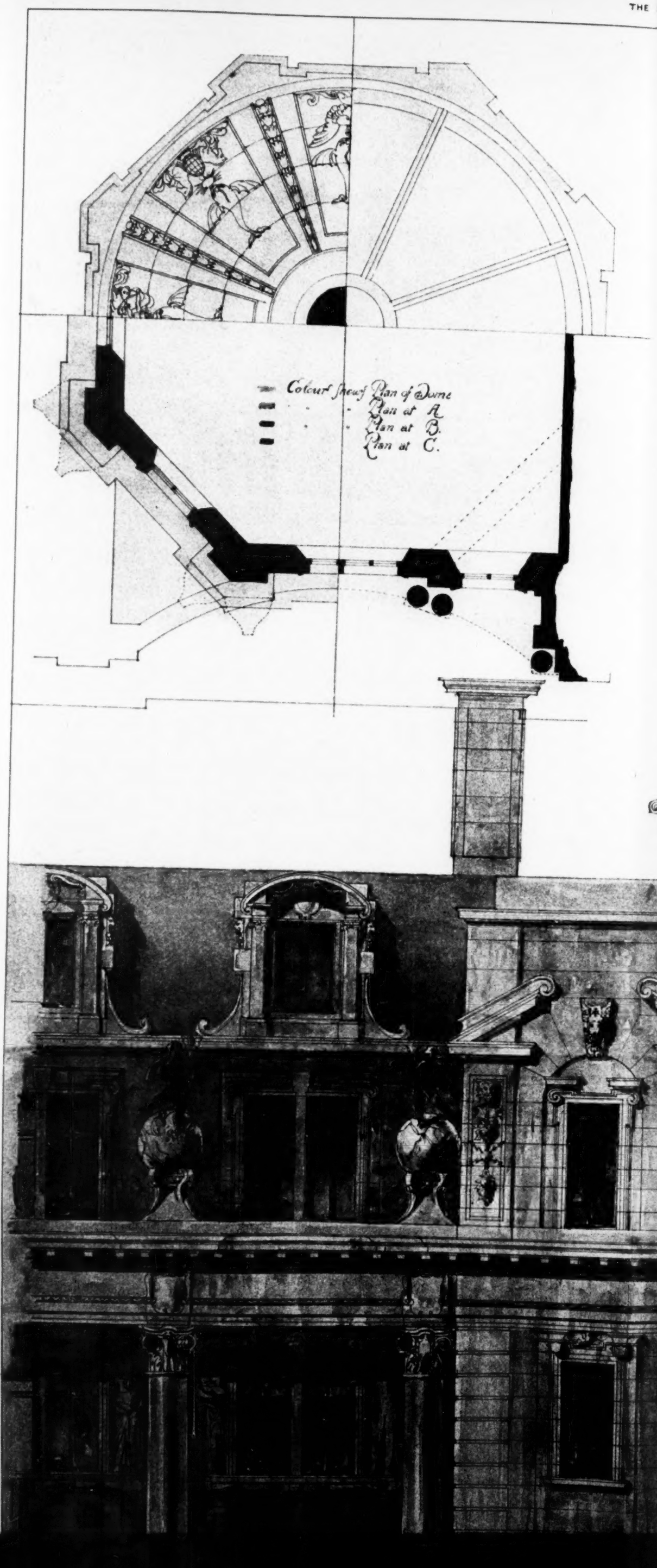

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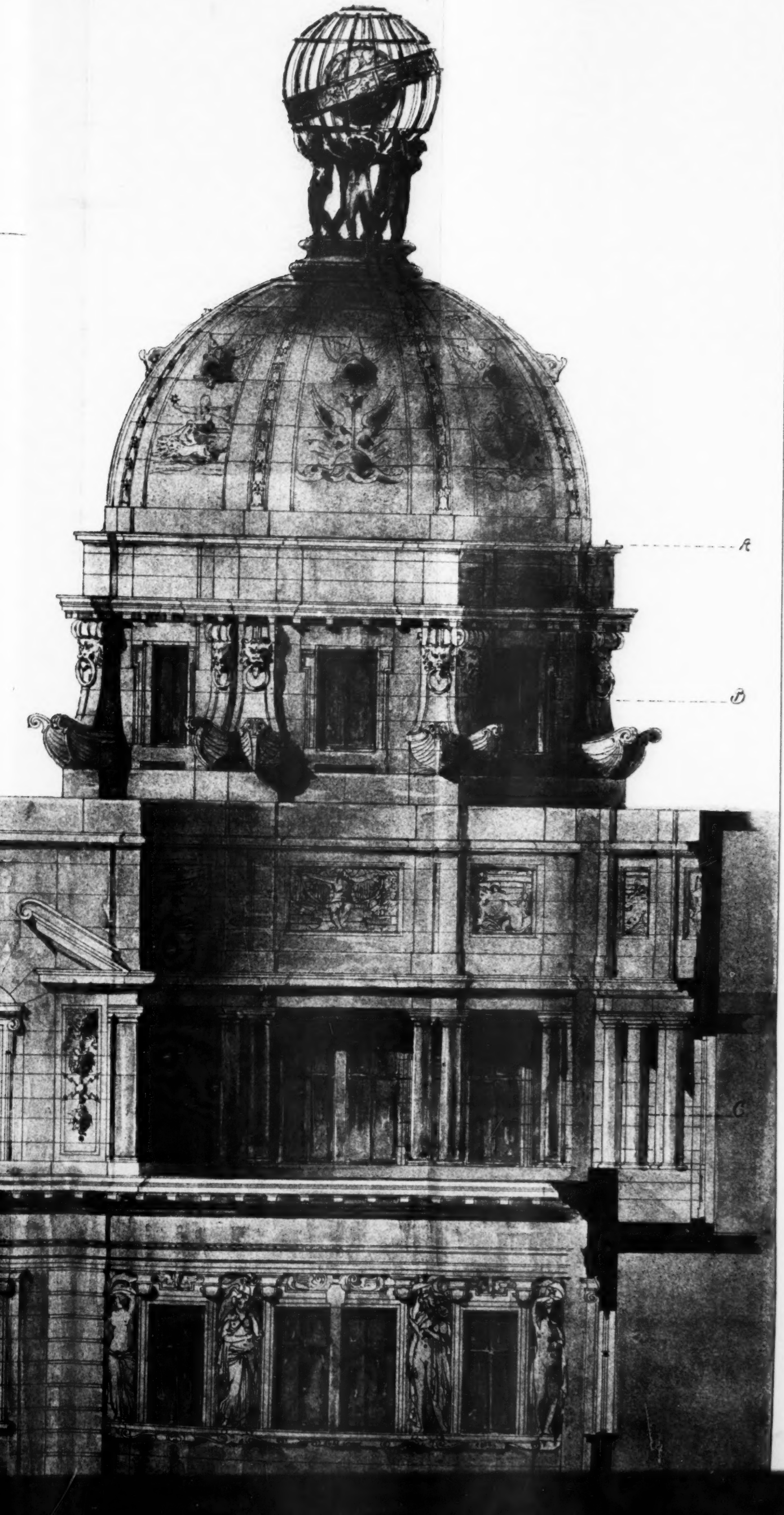
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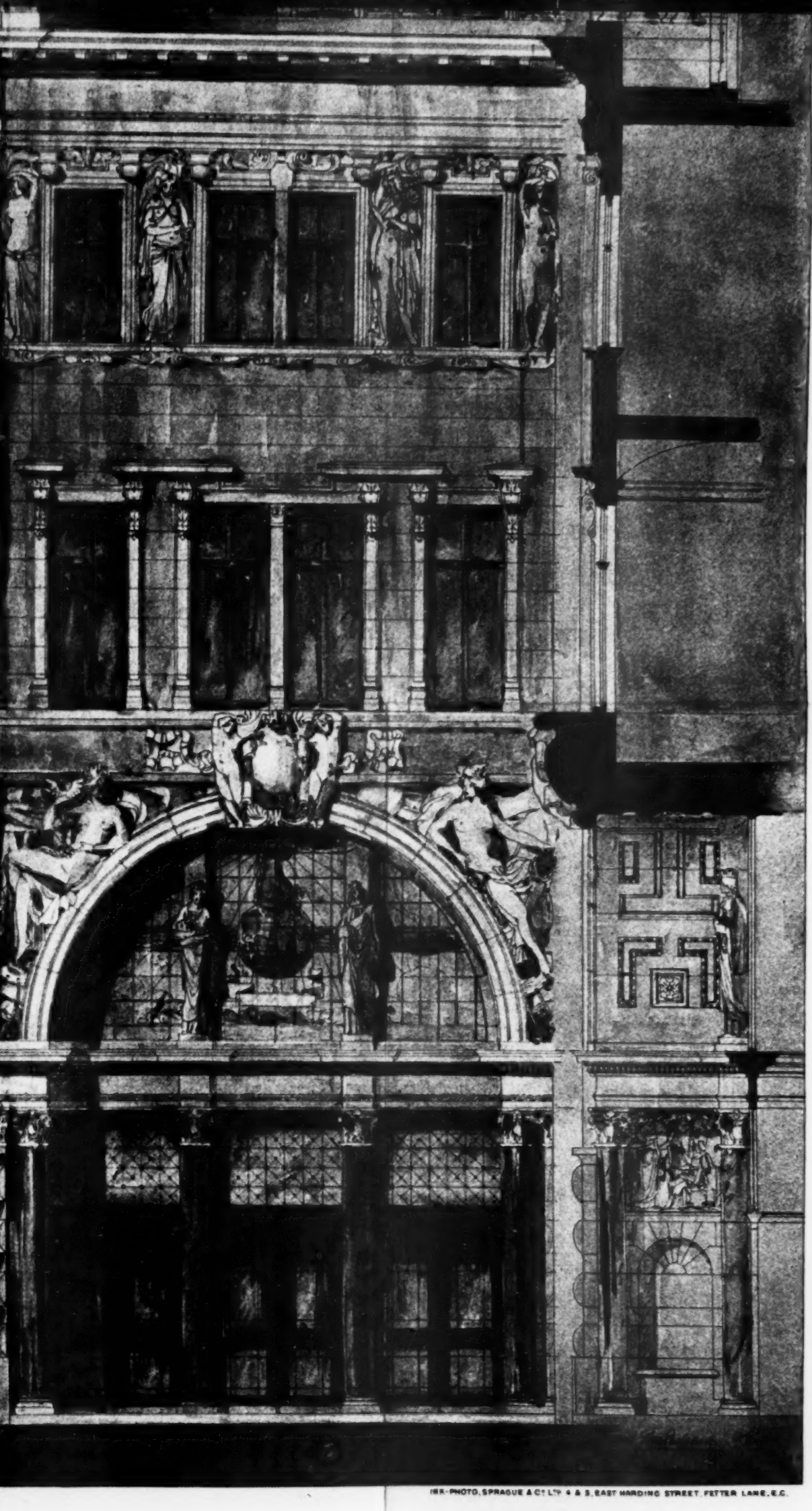


HER-PHOTO. SPRAGUE & Co LTD 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

TION OF FAÇADE.—Mr. John Belcher, A.R.A., Architect

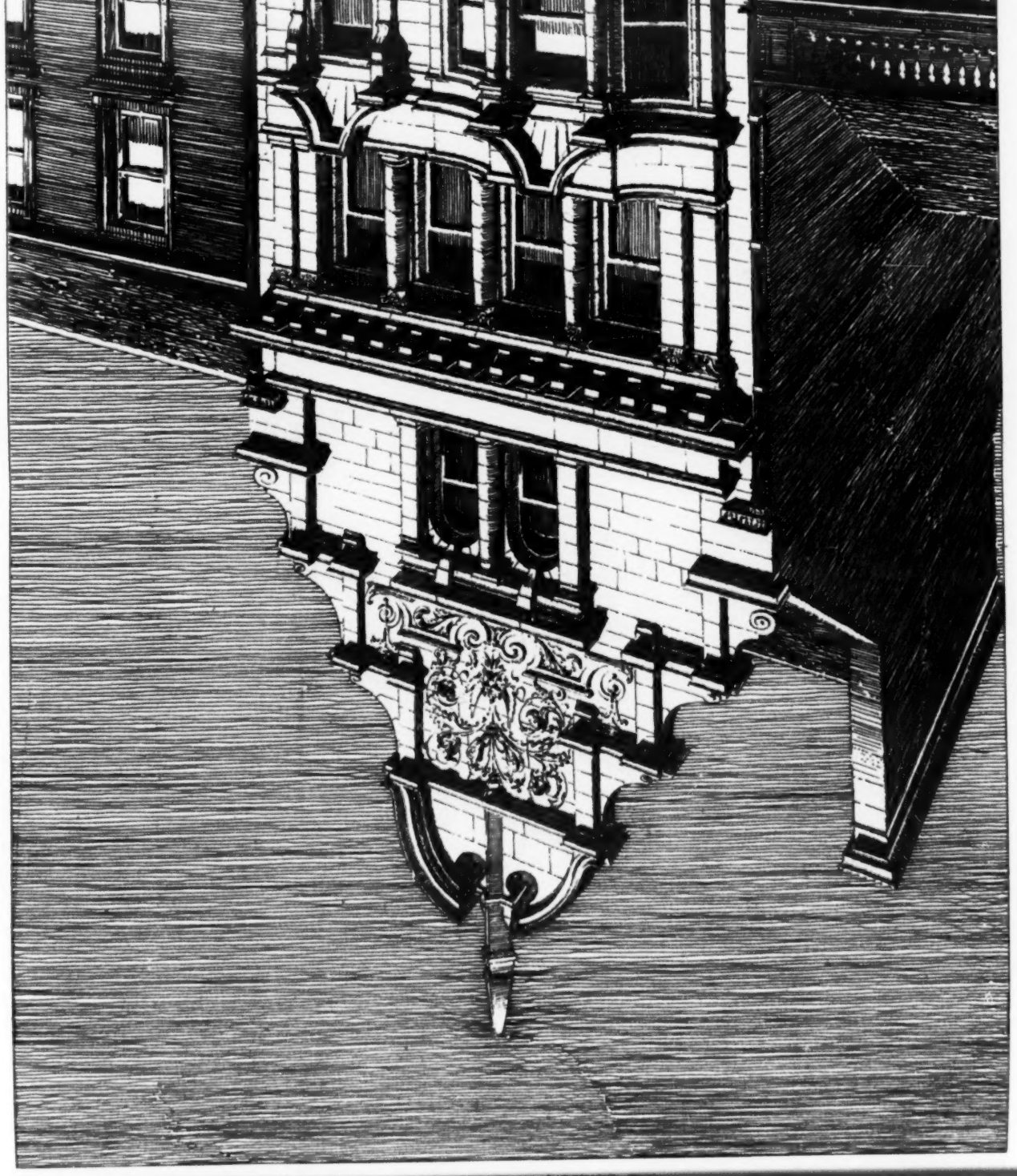
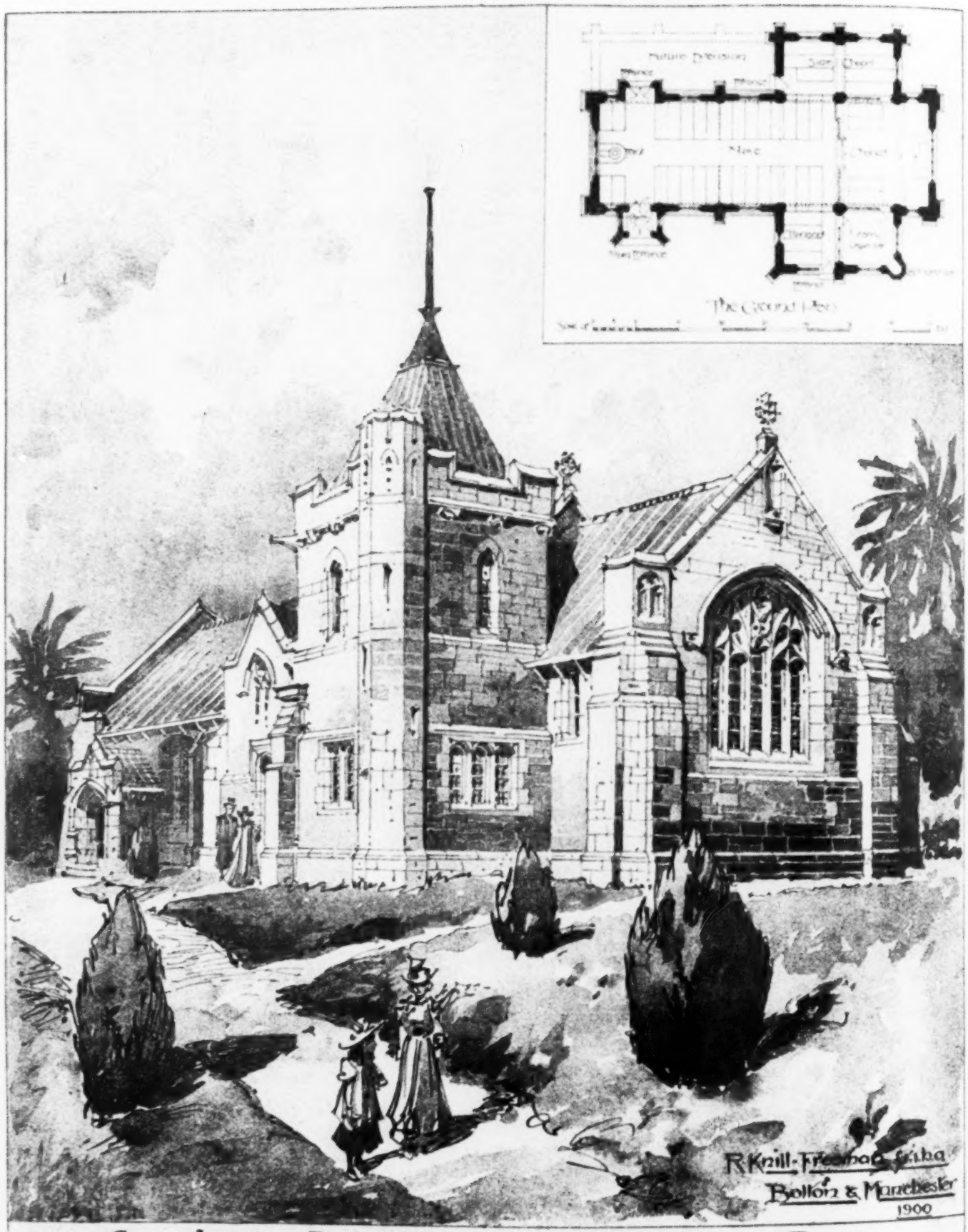


PHOTO-LITHO SPRAGUE & Co. LTD. 4 & 5 EAST HARDING STREET FETTER LANE, E.C.

FRONT, No. 59 BATH STREET, GLASGOW.—Mr. Thomas L. Watson, F.R.I.B.A., Architect

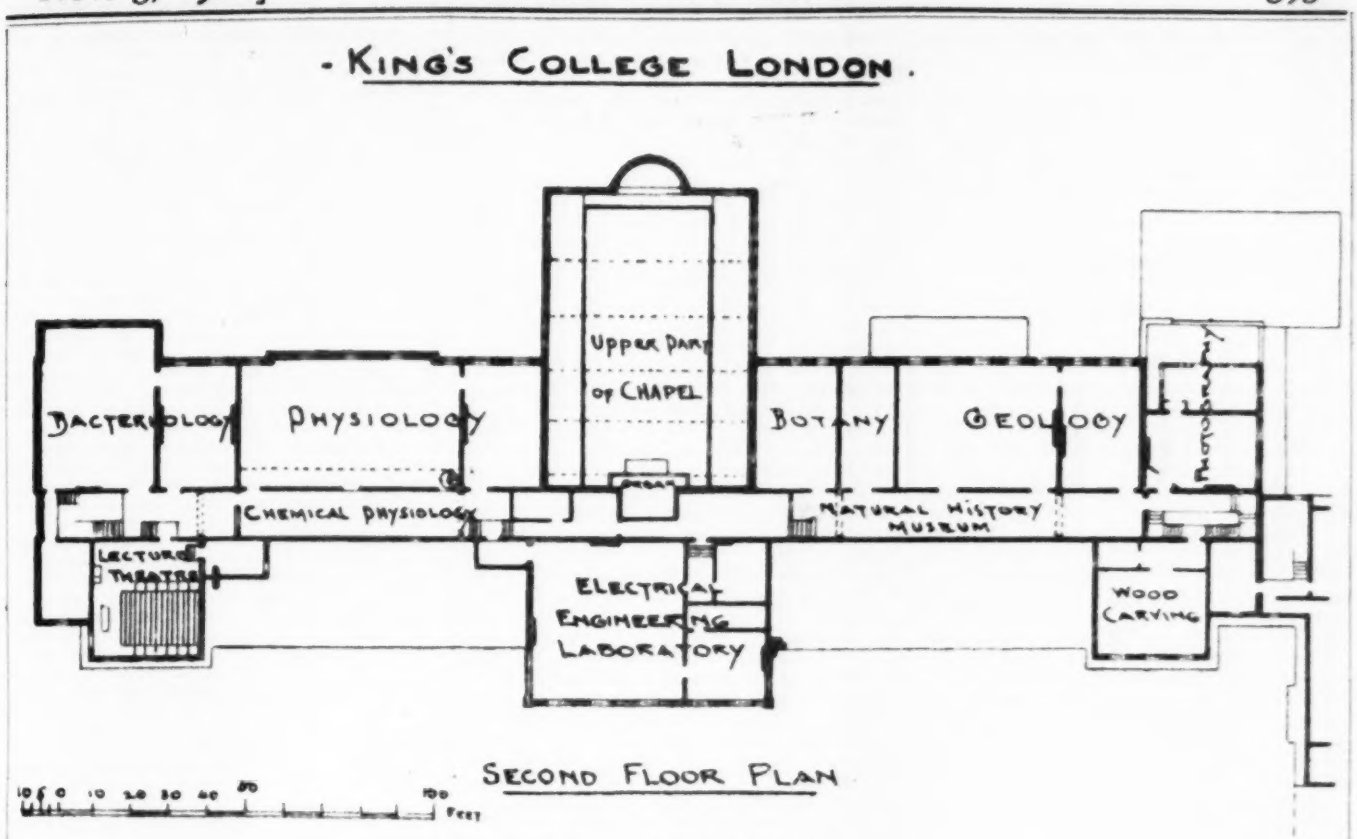


ST JOHN BAPTIST CHURCH SAN REMO

IRA PHOTO. SPRAGUE & Co. LTD. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.

ST. JOHN BAPTIST CHURCH SAN REMO

IRN. PHOTO. SPRAGUE & Co LTD. 4 & 5. EAST HARDING STREET. FETTER LANE. E.C.



service in South Africa, and he soon afterwards left the country with one of the Scottish companies of Imperial Yeomanry. Fortunately the former hon. secretary, Mr. Macmillan, was able to resume his old post temporarily during Mr. Loring's absence, and it is hoped that at any rate before the end of the year Mr. Loring will be back in England and will again take up the work. His re-election as hon. secretary for the ensuing session is accordingly proposed to-day. . . .

In last year's Report reference was made to a project for establishing a British School at Rome. It had originally been intended to hold a public meeting in the autumn or spring and to make a joint appeal on behalf of both Schools. The occurrence of the South African war, however, and the large demands made upon public generosity both for War Funds and for the Indian Famine Fund, seemed to be so adverse to the probable success of such an appeal that it was decided to postpone it. Considerable progress, nevertheless, was made in drafting a scheme for the School at Rome, and an attempt was made privately to raise funds to enable it to be started this autumn on however small a scale, but the effort has met with only limited success. In spite of this discouragement a very competent director has been provisionally appointed in the person of Mr. Gordon Rushforth, of Oriel College, Oxford, who knows Rome thoroughly and has shown expert knowledge alike in the field of Latin epigraphy and of Italian art. Mr. Rushforth will probably go to Rome before Christmas, prepared to direct the studies of such students as may present themselves, and it is hoped that in the course of the next few months it may be found possible to raise, whether in the form of donations or of annual subscriptions, sufficient funds to give the experiment a fair trial. The matter is commended to the generous support of all friends of the School at Athens, the members of which would certainly derive no small advantage from the existence of a similar School in Rome."

The Report goes on to say that the Committee had experienced some anxiety as to the finances of the School, but they were glad to be able to state that the Government grant of 500*l*. a year had been renewed for five years longer. The Prince of Wales has continued an annual subscription of 25*l*., and Dr. Ludwig Mond one of 100*l*. Some unforeseen expense has been occasioned by the necessity for entirely re-roofing the building of the School at Athens, in consequence of serious defects which have appeared recently. The Report concludes :—

"In conclusion, the Committee feel that they may congratulate subscribers both on the present position and future prospects of the school. In the fifteen years which have now elapsed since its foundation it has, in spite of difficulties and discouragements, steadily gained ground. The past year has brought with it an important and quite unforeseen accession to the library which forms so indispensable a part of its educational apparatus. This side of the school work will be steadily kept in view by the new director, who, in consultation with his predecessor, has already drafted some very valuable suggestions for the guidance of students both in preparing for and turning to the best account the time they may spend in Greece. In the field of excavation, which forms so useful an adjunct to the work done in museums or in the lecture-room, the results of the past session seem to promise discoveries in Crete which may even surpass in interest those already put to the School in Athens, in Cyprus, in Melos, and in Naucratis. The relations of the School with the other foreign institutes in Athens continue to be of the most cordial character. If only the financial support hitherto forthcoming both from public and private sources is well maintained, its friends may hope that in the new century upon which we are so soon to enter the British School at Athens may, with its sister School at Rome, before long achieve the position of a permanent national institution, to which its promoters have always looked forward with unfailing confidence."

The Chairman, in moving the adoption of the Report, commented on the great change in the point of view in scholarship from twenty or thirty years ago, when details of philology mainly occupied the minds of scholars, while in the present day far more attention was given to the possible results to be obtained from the right understanding of the remains of ancient buildings, pottery, ornaments, &c. Perhaps there had been a lack of the sense of proportion among both classes of scholars. But the zeal of successive directors, the skill and assiduity of explorers, and the continuous infusion of the best blood of each academic generation, were matters on which the British School at Athens had cause to congratulate itself.

Dr. R. L. Cust seconded the resolution, which was carried unanimously.

Mr. Hogarth, the retiring Director of the school, gave a short account of the session's labours, and spoke of the recent discoveries at Crete as having quite surpassed even the expectations he had held out last year. The most important result, however, which they might hope for from Crete, was that they could obtain from it some additional information as to the race of cultured people who unquestionably preceded the period of Hellenic culture — whence they developed and what became of them; for it was now an established belief that Hellenic culture was not preceded by barbarism, but by another culture belonging to an older race. It was too early to say that the question had been answered by Crete; but they had already much light. It remained now to find the early tombs, and clear the lower stratum of the palace at Knossos, and to learn more of the earliest Cretan race.

ADDITIONS TO KING'S COLLEGE, LONDON.

LORD LISTER visited King's College on Tuesday last, the 30th ult., and opened the new scientific laboratories, which form part of a comprehensive scheme of extension and improvement in the teaching accommodation of the college, resolved upon last year by the council. The architectural, biological, anatomical, and mechanical departments have all benefited by the new works. An additional floor has been placed in the south wing on which the geological, comparative anatomy and botanical departments are situated. The second story of the north wing, comprising the physiological and bacteriological departments, has been reconstructed and many other improvements effected.

The rooms recently provided for the architectural department include a large room about 60 ft. by 30 ft., used both for lectures and for instruction in drawing. It is provided with accommodation on the ground floor enabling forty students to draw, or sixty to attend lectures, and there is further drawing accommodation in the gallery for twenty more students. The alteration has not improved the lighting of the large room, for whereas it was, we are informed, originally lighted from the roof, the roof has now disappeared, and the whole of the architectural department is built over. It has been relighted at the side, however, by the insertion of large windows, and it is lighted also by electric light, whilst a powerful electric lantern is provided for lecturing purposes. The scheme includes the lining of the ground floor with cases containing specimens of building materials, models of structures and joints, together with diagrams and drawings. A small library-room and a room for the professor are attached. The studio, which is entered from the gallery level of the large lecture-room, is designed to provide, with some seats in the gallery, accommodation for about fourteen students. It is furnished with a collection of casts of architectural interest, and on the opposite side of the lecture-room there is a small room available either as lecture-room or studio.

The additional story in the south wing, providing accommodation for the geological, &c., departments, is very well lighted. The general geological laboratory and lecture-room provides room for fifty students. Arrangements are made for the exhibition of slides by the aid of an electric lantern. Attached to this department is a research laboratory, which is fitted up with tables, benches, &c., in a manner similar to the large laboratory. The new botanical laboratories consist of two rooms—the general laboratory for elementary work, and the research laboratory for advanced work and private research. The larger laboratory provides table accommodation for twenty-four students, and the smaller for twelve students. Along both sides of a corridor outside the botanical and geological departments a small museum of natural history has been formed. On the same floor the departments of physiology and bacteriology are situated; these are not altogether new, but they have been entirely remodelled, resulting in the establishment of another physiological

laboratory. In the physics department a new dark room has been constructed, and a room set apart for magnetic work.

The additions to the building have cost about 10,000*l.*; but together with the apparatus, fittings, &c., an expenditure of 20,000*l.* is estimated. The architects are Messrs. Banister Fletcher & Sons; and the equipment, fittings, &c., have been under the supervision of Mr. Walter Smith, C.E., Secretary of the College.

Correspondence.

To the Editor of THE BUILDER.

LONDON BRIDGE.

SIR,—When I saw the announcement of the consideration as to widening London Bridge, I thought of writing to you at once; but, on second thoughts, I felt sure you would observe the statement, and refer to it yourself. With every word of your article many engineers, as well as architects and artists, will surely agree. If a numerously-signed protest would be of use, would you not receive the names of those wishing to prevent the disfigurement of so noble a work? London, for its vast size, has very few monumental works that entirely satisfy and delight the cultivated sense; most of them have defects in themselves or disadvantages in their environment to counteract what beauty and dignity they possess; but from every point of view London Bridge is worthy of its position. It does not need widening; the Tower Bridge has effectually relieved its vehicular traffic, and the footpaths would always be adequate if groups of idlers were not allowed to obstruct them while watching the steamers on the east side. What the City Authorities really need to do is to expedite the repairing of the roadway, when it has to be repaired, and to obstruct the traffic as little and for as short a time as may be. During a considerable portion of the current year the bridge has been "up" in one place or other for various purposes, and these things could be managed much better.

E. DURANT CECIL.

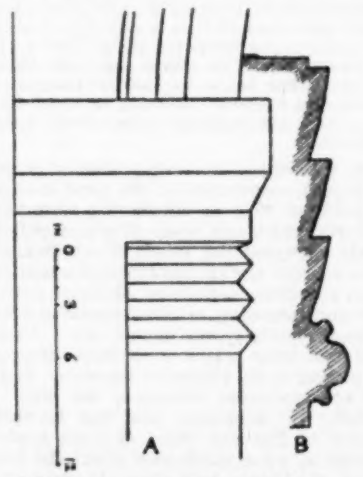
*** Certainly we should be happy to publish, as our correspondent suggests, a protest with influential signatures protesting against any interference with London Bridge.—ED.

THE STATISTICS OF SAXON CHURCHES.

SIR,—On Kingsbury Church, Middlesex, there is a note in the present issue. As the well-marked long-and-short work in the two western quoins goes with a thin wall (on north and south about 2 ft. 5 in.; more on the west), and is not accompanied by any contradictory evidence, I have accepted it as pointing to a Saxon date. Does Mr. St. John Hope know of any twelfth-century church with long-and-short quoins of this character? In respect to the shafts at Lanchester and Chollerton, I feel confident that both Mr. St. John Hope and Mr. Fox would recognise them as Roman if they examined them in connection with the abundant Roman stonework of the district. There is, however, proof positive in the existence at the Roman station of Cilernum (Chesters), on the North Tyne, of a broken shaft which agrees with them exactly in diameter and handling. The shafts are all within about an inch of 5 ft. in circumference in every part, and most of them are nearly 8 ft. high. There are five in each of the churches named, and they correspond in each case with ordinary built-up mediæval supports in the opposite arcade. They are in most cases roughly tooled, I surmise as a key for plaster, but the surface of some has been worked over in later times. These marks of handling occur all over the shafts and are not confined to the lower part, which would be the case had the mediæval mason worked this down to the size of the upper diameter. Why he should do this is difficult to see, for mediæval practice did not reject tapering shafts, which are abundant in Early German Romanesque. I do not see any escape from the conclusion that they are Roman, and like the Reculver shafts had neither tapering nor entasis.

The latter columns present, no doubt, a difficult archæological problem, which, it is to be hoped, time will enable us to solve. The argument in Mr. Fox's letter, at the best, would only remove the difficulty a little further back. He believes them to be "Saxon imitations of Roman work," and yet his whole letter aims at proving how very un-Roman they are. Neither in base, shaft, necking, nor capital are they allowed to resemble even distantly Roman work, while *ex hypothesi* they are imitated from it. On Mr. Fox's showing they must have been modelled on some form of Roman column hitherto unrepresented on Romano-British sites. As regards tapering and entasis, such abnormal patterns actually exist in the North, and though the Reculver columns are unlike the known Roman remains in the southern and Midland districts of England, the new evidence which may some day enable us to fix them is as likely to turn up from the Roman as from the Saxon side. Here come in the questions of scale and execution. The former is considerable, the latter accurate and workmanlike; both points are against, though, of course, they do not preclude, a Saxon origin. The drums are gauged very truly and excellently fitted, the mouldings on the neck run with precision, and the lower bead undercut, the cable ornament is not more Saxon than Roman. The monuments cannot well be Gallic importations, as Merovingian work at the time would show more of the florid Gallo-Roman ornamentation.

A word may be added about the capitals. Mr. Fox says that he does not know anything in Roman capitals in this country "so clumsy as this attempt to fit a square capital to a circular shaft." Of course the attempt in itself involves nothing clumsy, as it is what all makers of Classical caps have had to essay, and I cannot agree with him that this particular solution of the problem is a bad one. The caps are too low for the shafts and this spoils their appearance, but the scheme is a reasonable one. It is that of a cube with the lower corners rounded off, each of the sides swelling out into a curve so that the base approaches a circle in plan. This entasis on the sides is divided horizontally into three, and is cut away just below the top, which is in plan a square, though not a true one. A shallow cut runs horizontally at the bottom and the top of each division. I must point out that I did not adopt the theory that the caps ever actually carried attachments in bronze, for there are no rivet holes or marks of metal discolouration, but suggested that they "were intended to receive" such enrichments, which I still think a plausible explanation of their form. The accompanying drawing to scale of the jamb at Stopham,



A. Stopham, Sussex: Jamb of South Door.
B. Section of Cap from Reculver (same scale).

which I happen to have by me, will show that there is practically no resemblance here to the Reculver work.

On the subject of Repton, I have not had an opportunity of seeing the recent edition of Mr. Hipkins' book, referred to by Mr. C. B. Hutchinson. The plan quoted by him seems to differ markedly from that of the late Mr. J. T. Irvine, adopted by Mr. Micklethwaite in the *Archæological Journal*, vol. liii. My doubt as to the Saxon plan led to my use of the cautious "may," which your correspondent reproachfully italicises, and it will be of great value if this plan can be finally settled.

G. BALDWIN BROWN.

SIR,—May I answer Mr. W. H. St. John Hope's query concerning the monolithic columns in the arcades of the churches at Chollerton and Lanchester? They are clearly not of the same date as the capitals and arches they carry, but, of course, are not necessarily Roman because monolithic. I will briefly state the facts of the two cases.

Lanchester Church is three-quarters of a mile from a large Roman station on the line of Watling-street, and Chollerton Church is 2¼ miles, by road, from the station Cilurnum, now Chesters, on the line of the Roman wall. At both these stations were large buildings with colonnades of some magnitude, as testified by the remains on the spot. Lanchester Church has nave arcades of four bays on either side, of one date, c. 1180. The arches and capitals are the same in each arcade. The columns on the south side are built up in courses, and are clearly of the date of the arches. Those on the north are monoliths and are made up under the capitals with short pieces which vary in length, to bring the whole column to the length of those on the south side. The diameters of the abaci are the same on both sides, but the monoliths being somewhat smaller than the built-up columns opposite to them, the neck moulds are less to adapt the capitals to a column of lesser diameter. The result is an overhanging appearance to these caps. I spent some time in Lanchester Church on August 17 in company with other archæologists, and we noted a most distinct entasis in the monoliths. I did not test them for taper, unfortunately, but they have the appearance of having been dressed off at the tops to get a good bed for the lengthening pieces, and this will have obliterated the taper to some extent.

The case of Chollerton is not quite so decided, as the two arcades of the nave are not contemporary. The supposed Roman monoliths are in the south arcade which dates from c. 1200. The north arcade is much later. As at Lanchester, the monoliths look too thin for the capitals they carry. They show signs of having had the entasis dressed off. They are stone from base to cap, and are not lengthened as at Lanchester. The responds are monoliths let into the walls half their diameter, and not built up in courses. I have not tested them for taper. I will take an early opportunity of measuring up the arcades in both churches, so that the exact facts may be put before your readers.

I cannot endorse the suggestion made by Professor Baldwin Brown that these columns are re-used material from St. Wilfrid's Church at Hexham (p. 307). There can be no doubt that Wilfrid's church was used by the Austin Canons till they began their new church, hence the dates of the various works are against the supposition. Again Corstopitum was a much nearer and far more prolific source from which dressed stone could be got than either Chesters or Lanchester. Both Eddius and Prior Richard describe Wilfrid's columns as being finely polished—a description which could not apply to the roughly dressed monoliths at Chollerton and Lanchester.

I know of no other instances of monolithic columns in main arcades which are likely to be Roman work re-used. CHARLES C. HODGES.

SIR,—None of your correspondents have referred to the surroundings of the Reculver pillars when still standing complete up to July, 1809. The whole of the thirteenth and fourteenth century masonry easily fell before hammer and axe; but the triple chancel arch, eastern apse, &c., required gunpowder, and the first charge was inserted in the right-hand arch looking east, which enabled one pillar to be felled; and in this condition this part remained for about ten years, as the plates in Deeble and Ireland's books both testify; the latter shows an abacus and the nature of the base, *round* which, *not beneath*, exists a red-coloured Roman concrete pavement. This pavement was so hard that Mr. Pridden in 1788 was unable, even with assistance, to obtain a specimen.

A single square-headed fifteenth century clear-story window existed on the south side. A triplet lighted the east end of the extended chancel beyond the Roman apse.

After 1825 the Trinity Corporation, who had purchased the church in 1809 (too late to interdict injury to the whole church), stopped any further free quarry going on. Both pillars had, however, by that date been acquired by a relative of mine, who took them to Canterbury, where in an orchard they were rediscovered in 1861. They are of coarse oolite. From Pridden's slight sketch, and an examination of the mouldings of the tower arches, and measurements of the (Canterbury) pillars, as well as an inspection of Buck's view of the exterior which is before me, a perfect restoration of the interior might be published.

JOHN FRANCIS GRAYLING.

Sittingbourne.

P.S.—The first Hilborough Church was built, about 1815, of the old materials easily moved.

ARCHITECTURAL EDUCATION.

SIR,—As Mr. W. Howard Seth-Smith in his presidential address to the Architectural Association is reported in your columns to have said, "with the exception of the Victoria University at Liverpool, I believe King's College is the only institution in this country which has an architectural day school," will you kindly allow me to explain regarding the day classes in Architecture held in this College?

When this College was founded in 1830, by the amalgamation of others previously existing a

diploma in architecture with the title of associate of the College (A.G.T.C.) was instituted as one of the eleven courses of study in the day classes. Building construction and other science subjects were taught in day classes with varying success till 1895, when definite day classes in architecture, including drawing, architecture, and construction, were started, but the largest enrolment has been eleven students and this was last session.

The complete course is a three years one, but in the second and third years the student spends nearly all his time in the study of purely architectural subjects, and he may enrol for these classes alone without taking the first year's course, which is in general science, but includes drawing.

The students who have attended since 1895 have mostly taken the second year's course, which consists of one hundred lectures on architecture and construction, these being delivered daily from 10 till 11 a.m., and a course of studio instruction in drawing from 11 till 12.30, but the students continue to work in the studio till 5 p.m.

I believe that the Colleges of Architecture in America all began in connexion with Engineering Colleges, and as these have succeeded I do not see why the Architectural departments in the University and Technical colleges of this country should not also succeed in due time. But the establishment of the day classes he proposes will undoubtedly greatly help day-class architectural education throughout the country, and I most heartily wish success to the scheme. CHARLES GOURLAY.

Glasgow and West of Scotland Technical College.

BOOKS RECEIVED.

LAND SURVEYING AND LEVELLING. By Arthur T. Walmisley, M.Inst.C.E., F.S.I., F.K.C.Lond., Hon. Assoc.R.I.B.A. 7s. 6d. (D. Fourdrinier, *Builder* Office.)

FIELD WORK AND INSTRUMENTS. By Arthur T. Walmisley, M.Inst.C.E., F.S.I., F.K.C.Lond., Hon. Assoc.R.I.B.A. 6s. (D. Fourdrinier, *Builder* Office.)

STRUCTURAL IRON AND STEEL. By W. N. Twelvetrees, M.I.M.E. 7s. (D. Fourdrinier, *Builder* Office.)

STRESSES AND STRAINS: Their Calculation and that of their Resistances, by Formulæ and Graphic Methods. By Frederic Richard Farrow, F.R.I.B.A. 5s. (D. Fourdrinier, *Builder* Office.)

ROAD MAKING AND MAINTENANCE. By Thomas Aitken, A.M.Inst.C.E. (C. Griffin & Co.)

TWENTIETH ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD. (Eyre & Spottiswoode.)

FIFTEEN STUDIES IN BOOKKEEPING. By Walter W. Snailum. (Cambridge University Press.)

THE PRACTICAL ENGINEER POCKET BOOK FOR 1901. Price 1s. 6d. (Technical Publishing Company, Manchester.)

The Student's Column.

LESSONS IN ELECTRICAL ENGINEERING.

16. DIFFUSION—REFLECTION—ARC LIGHTING—ARC LAMP MECHANISMS—CARBON RESISTANCE—DISTRIBUTING GLOBES—ENCLOSED ARCS—STREET LIGHTING.

IN lighting by artificial methods there are two general rules that have always to be borne in mind if the best and most economical results are to be secured. The first rule is that the light should be as diffused as possible, and the second is always to make the best use of any available reflecting surfaces. The important part played by diffused light in every day illumination indoors is not generally realised. Very often the amount of diffused light in a room is three or four times as important as the direct rays from the illuminating source. Daylight, again, whilst due to the sun in the first place, has, as a rule, suffered many reflections from clouds, walls, &c., before the rays are finally absorbed. In order that the electric arc may be used for lighting it is necessary to surround it by a large diffusing globe. The intense brilliancy of the ends of the carbons irritates the retina of the eye and causes the iris to close up. Now the eye judges the intensity of an illumination not only by the intrinsic brilliancy of the source of light, but also by the number of rays falling on the retina. Hence anything that causes the iris to contract and cut out some of the rays that would otherwise reach the retina detracts from the illumination. Similarly anything that makes the light more diffused and pleasanter to the eye increases the illumination? for example, if the globe of an arc lamp absorbs 30 per cent. of the light generated; yet if the effect of putting it on is to make the diameter of the iris expand 20 per cent., and so increase the area of the pupil of the eye by 40 per cent., then the effect of putting on the globe is to increase the apparent illumination.

The unit used by the English electrician to measure illumination is the candle-foot, and is the illumination produced by a standard candle at the distance of 1 ft. The maximum illumination produced on the ground by an arc lamp 20 ft. high is only about half a candle-foot, whilst the illumination of the ground on a bright summer's day is about 30 candle-feet, yet the illumination in the latter case is quite pleasant to the eye.

The value of reflecting surfaces as an aid to illumination is shown by putting first a sheet of white paper directly behind the flame of a standard candle and then a piece of dark cloth, and measuring the candle-power of the light sent out in the two cases. In the first case the candle-power will be more than doubled, in the latter case it will not be appreciably affected. If we had put a good reflecting mirror instead of the white paper the candle-power would have been 1·8. The reason why white paper reflects more light perpendicularly to its surface than a mirror is because the mirror reflects light equally in all directions, whilst a diffusive reflector like the sheet of paper sends most of the light off normally. It follows that by means of ordinary or diffusive reflectors we can considerably increase the intensity of light in any required direction. If an arc lamp be placed near a clean whitewashed wall its efficiency will be greatly increased.

We saw in the last lesson how an electric arc could be maintained between two carbons. As the carbons are in the open air they are gradually consumed away, and some mechanism has to be invented in order to keep them always at the proper distance apart if the arc is to be utilised for permanent lighting purposes. A great many different principles have been employed in the mechanisms for the regulation of arc lamps, but they may be divided into five classes. In the first class the regulation is effected by the strength of the current. If the current gets too strong the carbons are pulled farther apart by an electro-magnetic arrangement, and if too weak then they come closer together. This class then regulates for constant current in the arc. In the second class a shunt coil made of fine wire and having a high resistance is placed across the arc. If the electric pressure at its terminals is too high then the carbons are brought closer together, and conversely, when the electric pressure falls they are separated farther apart. The second class acts so that the pressure which maintains the arc is always the same. Continental lamps are generally made on one or other of these principles. They do not require much copper, and are consequently cheap to make, but the regulation is not very good.

In the third class of lamps a differential action takes place. We have two coils of wire, one in series with the main current and the other as a shunt across the carbons. The series coil acts so as to open the arc whilst the shunt coil tends to close it. These two actions are balanced, and so, in the steady state, we have the ratio of the difference of pressure to the current, that is, the apparent resistance of the arc kept constant. As the regulating force is the difference between the actions of the shunt and series coil, each of them has to be more powerful than when a shunt coil alone is used, and hence the amount of wire required for a differential lamp is more than twice that required for a shunt lamp. The two principal makers in this country make differential lamps, which regulate extremely well. The two coils are placed vertically and pull at opposite ends of a balanced lever. Any irregularities in the pressure of the supply or in the resistance of the arc caused by impurities in the carbon make very little difference in the light sent out. The "feeding" of the carbons together is done by either a clutch or a brake-wheel mechanism. The clutch mechanism is used in the Brush arc lamp. The lever when it rises catches the underside of a washer and raises the carbon. This mechanism acts well at first, but when the lamp is old the "feed" movements are apt to take place jerkily. Brake mechanism is most generally employed in this country; the lever acts on a brake wheel, which is kept protected from the vapours given off by the arc, and hence can easily be maintained in good working order.

The fourth class of arc lamps is one that would regulate so as to keep the power absorbed by the arc constant. Theoretically, of course, this is the proper principle to adopt, as we want the light given out to be absolutely steady. A practical arc lamp of this class has not yet been constructed, although the invention does not seem to present any great difficulties.

In the fifth class may be grouped those lamps which feed the carbons together by a fixed amount every minute or half-minute, or which keep them at a fixed distance apart. In the latter division is the Jablochkoff candle. It consists simply of two pencils of carbon insulated from one another. The arc starts across the top and gradually consumes them; a candle 10 in. long would last about two hours. In order that the carbons should be consumed at the same rate it is necessary to use alternating current.

The Patent Office contains an extraordinary record of ingenuity of inventors with reference to the improvements in the mechanism of arc lamps. Differential clock gear, pulleys and weights, water, mercury, compressed air, mechanical and magnetic friction, electric motors, &c., have all been proposed, and numbers of lamps have been made on these principles. Where very large arc lamps are necessary, as in naval searchlights, electric motors are often used to control the mechanism variations in the speed of the motor screwing the carbons nearer together or farther apart as wanted.

The resistance of the carbons used in ordinary arc lamps which have diameters varying from 8 to 15 mms. varies from 0·14 to 0·25 ohm per foot. These carbons can be used with currents varying from 8 to 25 amperes. Although the resistance of the carbons is not high, yet as we sometimes have as many as fifty arc lamps in series the power expended in overcoming this resistance is appreciable. The resistance of 100 ft. of carbon rod taking 20 amperes would be 15 ohms; the loss of pressure in the carbons would be 300 volts, and the power expended in them would be $(20)^2 15$ *i.e.* 6 kilowatts, or slightly more than 8-h.-p. Hence when all the lamps have been newly trimmed the pressure required is about 250 volts more than when the carbons are nearly all used up. In America carbons plated with copper are generally used. The copper plating increases their life by about 30 per cent. and diminishes their resistance very considerably. In Europe, however, bare carbons are nearly always employed, as they give a steadier light.

In direct current arc lamps the positive carbon used has often a larger diameter than the negative carbon. This improves the light sent out, as less is blocked by the lower carbon. In addition, the positive carbon is often cored. Cored carbons have a slightly higher resistance than solid carbons of the same diameter, and burn away more rapidly. Some lamps, however, burn in an unsatisfactory manner when both carbons are solid. In alternating current circuits both the carbons are nearly always cored.

Recently a considerable amount of attention has been given to the design of distributing globes for arc lamps. Mr. A. P. Trotter invented several years ago his "dioptric lantern," which had ten panes of glass covered with prismatic corrugations, the angles of which had all been carefully calculated, so that the best possible distributing effect was produced. Unfortunately it was very expensive, and was rather clumsy in appearance, and so was never extensively used. The Fredureau and Holoplane globes have been designed on very similar principles, and can be made in all shapes and sizes. The Holophane globes that are used with street lamps are spherical in shape. On the exterior are horizontal prismatic ribs, and in the interior are vertical flutings. The light is thoroughly diffused by the flutings, and then suitably distributed by the external prismatic circles. The Frédureau globe is very similar to the Holophane, but has no flutings in the interior. When inside a Frédureau globe the arc presents the appearance of a bright band of light, but inside a Holophane the whole globe appears all over equally bright. Owing to the excellent diffusion of the light, the mean illumination is increased by the use of these globes, and so current can be saved, this saving more than compensating for the increase in the initial cost. The only drawback to the use of prismatic globes is the difficulty of keeping them clean. They get dirty very rapidly, and to get them clean washing and scrubbing are necessary, merely wiping them with a dry cloth has very little effect. This adds to their expense, for a trimmer can attend to fifty or sixty arc lamps a day when smooth globes are used, but only about half that number when the globes are corrugated.

Some interesting experiments were made in Berlin a few years ago on the luminous intensity of the electric arc when surrounded by various globes. Without a globe the horizontal intensity of the light from the arc was only 196 c.-p., it then increased rapidly, being 1,150 c.-p. at 20 deg. below the horizontal, and attained its maximum value of 2,014 c.-p. at 42 deg. It then decreased very rapidly. The mean spherical candle-power of the arc was calculated to be 1,228 without the globe. With the globes the distribution of the light was quite different, as the following table shows:—

	Horizontal c.p.	Maximum c.p.	Mean c.p.
Globe No. 1	419	970	740
,, No. 2	519	1,093	777
,, No. 3	497	713	590

Hence the horizontal candle-power was greatly increased, but the mean candle-power was diminished very considerably. By the aid of reflectors, however, the loss can be diminished. It is safe to assume that at least 30 per cent. of the light generated is absorbed by the globe.

During the last few years enclosed arc lamps have become very popular. In these lamps the arc is burned in a practically closed chamber, with the result that it is surrounded by inert gases, the oxygen being consumed and fresh air is prevented from having access to it. The effect of this is that the carbons burn blunt or square at the ends, a much longer arc can be maintained, and hence we can use a higher voltage. In the first enclosed lamps made great difficulty was experienced owing to a brown deposit appearing on the surface of the inner enclosing globe. This was remedied by only using the best carbons obtainable. The inner globe must be made of very thin glass owing to the great heat to which it is subjected. It absorbs a certain proportion of the light, but as it also helps to diffuse, we can use a fairly clear outer globe. Sometimes the inner globe is given a yellowish tint so as to counteract the large number of violet rays proceeding from the lengthy arc. The result of the almost complete exclusion of oxygen is that the life of the carbons is considerably prolonged. They often last from 150 to 200 hours, and hence the lamp requires very little attention. A white deposit appears on the inner globe during the run and hence the candle-power falls slightly off towards the end of the run. This deposit can easily be removed by a dry duster and this ought always to be done when the lamp is recarboned.

The best known type of enclosed arc lamp is the Jandus lamp, which can be used singly on 110-volt circuits. If we use open arc lamps we have to run two in series, each taking about 45 volts, and having a resistance taking 20 volts in series with them. One Jandus lamp can be put straight on to a 110-volt circuit. In the lamp cover is a resistance coil taking 30 volts, and the other 80 volts are utilised in the arc. This is a great convenience for small shopkeepers and others who only want one arc lamp. The character of the light sent out by the enclosed arc makes it very desirable as a substitute for daylight in certain cases. In drapers' shops, for example, it is found possible by its means to match various shades of cloth, a result which could be attained with no certainty by means of glow lamps. The following test shows, however, that the luminous efficiency is little better than that given by ordinary glow lamps. Professor Elihu Thomson found that the mean spherical candle-power of an enclosed arc with clear inner and no outer globe, after running for 102 hours was 196. As it was taking 4·75 amperes, and the voltage between the carbons was 80, the arc was giving an illumination of 196 candles, at an expenditure of 380 watts, or 1·94 watts per candle. This gives the efficiency of the arc, but the efficiency of the lamp is less than this, owing to the power wasted in the resistance coil, and hence it would not be safe to assume that an enclosed arc lamp had an efficiency higher than two watts per candle—a result which is not very different from that attained with high-efficiency glow lamps.

With enclosed arc lamps it is necessary that the caps of the inner globe should fit closely so as to prevent leakage of air and consequent rapid consumption of the carbons. For the same reason a cracked inner globe ought always to be replaced as soon as possible. Fire insurance companies recommend enclosed lamps in preference to open ones as the fire risk is obviously less.

Arc lighting dynamos were the first successful dynamos made, and so there are still many central stations where the arc lamps in the streets are connected in series with a Brush or a Thomson-Houston arc lighter.

In many modern stations separate plant for the arc lamps is not used. If the pressure of supply be high pressure continuous at 1,000 or 2,000 volts sent to sub-stations, then the arc lamp circuits can be connected straight on to the high tension bus bars, each circuit containing twenty or forty arc lamps. If the pressure of supply be alternating, then methods involving transformers can be used, and if the pressure of supply be low pressure continuous, then the lamps can be run four or five in series across the outers of the three-wire system of supply.

In many streets in this country and abroad the arcs are arranged zig-zag alternately on both sides of the street. The method is not so effective as putting the lamps opposite one another, but it is more economical. In this country a favourite system is to put the lamps in refuges down the centre of the street. In the Fifth Avenue at New York, in addition to rows of arc lamps down each side of the street exactly opposite one another, there is a row down the centre, each lamp of this row being at the centre of the rectangle formed by four neighbouring side lamps. This "quincunx" arrangement is also used in several of the streets in Paris, and is very effective.

It has now become customary to divide the arc lamps in a street into two separate circuits, so as to minimise the risk of a total extinction of the light by a fault occurring when the traffic is heavy. At midnight one of these circuits is usually turned off, so as to economise expense. In some places, instead of turning off half the arc lamps, they turn them all off at midnight, and switch on two 32 c.-p. glow lamps fixed on each arc standard instead. As an arc lamp usually takes about 500 watts and the two glow lamps take about 200, this latter method is slightly more economical of power than the method of turning out half the arc lamps, but it is very doubtful whether, taking everything into account, it is a real economy, as it makes the wiring more complicated, and the light given out is considerably less.

The Board of Trade Regulations insist that arc lamps must be placed at least 10 ft. from the ground. For good distribution it is found that the height should be much higher than this. When the column is on the pavement the heights usually chosen are between 18 ft. and 20 ft., and when the lamp is on a refuge in the centre of the road, heights of 23 ft. to 25 ft. are generally used. It seems unlikely that heights above 30 ft. will ever be used, owing to the great absorption of the light that would take place in misty or foggy weather. Hence the numerous schemes for lighting cities by means of powerful arcs placed on lighthouses are impracticable.

GENERAL BUILDING NEWS.

NEW CHURCH, FLOOKBURGH, LANCASHIRE.—On the 20th ult. the Bishop of Carlisle consecrated the Church of St. John the Baptist, Flookburgh. The church, which has cost about 11,000*l.*, takes the place of an old chapel-at-ease erected in 1777. The new church is Transitional in style, built of stone from a quarry on the Holker estate. The architects were Messrs. Paley & Austin. The organ is by Messrs. Brindley & Foster, Sheffield, and the four bells were cast by Messrs. Taylor, of Loughborough.

ENLARGEMENT OF ST. MARY'S CHURCH, PLAISTOW, E.—A north transept, which has been added to this church, was consecrated recently. The addition gives accommodation for about 114 seats. The building work was carried out by Mr. T. D. Graty, of Bromley, the architects having been Messrs. Wadmore, Wadmore, & Mallett. The windows of the transept have been filled with stained glass by Messrs. Ward & Hughes. Other improvements to the church include the re-seating of the nave, the work being executed by Messrs. Hammer & Co., and the installation of the electric light by the Bromley Electric Light & Power Co.

UNITED PRESBYTERIAN CHURCH, DUNDEE.—The memorial stone of the new building which the congregation of the Wishart U.P. Church, Dundee, are erecting in King-street was laid recently. The architect of the new building is Mr. T. M. Cappon, Dundee. The plan is arranged in one large nave, side aisle, and transept, with an end gallery next King-street. In one end of the bays of the transept is placed the organ chamber and choir gallery. The pulpit and platform are placed on the south wall in an apse, and are lighted by a window on each side. Large traceried windows placed in the nave and transept run up into the roof above the wall-head to secure better light. The church is entered from King-street level by two doors, and the entrance to the gallery and the halls beneath is by the door under the tower. The halls accommodate 350, and have session and managers' rooms, ladies' and gentlemen's cloakrooms, lavatories, &c. The church accommodates 700. A subsidiary staircase is situated in the west transept leading to the vestry and choir gallery, also making a connexion with the halls below, and special exit to the Cowgate. The mason work is being executed by Mr. Laing; joiner work by Mr. T. C. Stocks; plumber work by Messrs. J. Crighton & Sons; slater work by Mr. William Brand; and the plaster work by Mr. M. Lawless.

RESTORATION OF WYVERSTONE CHURCH, SUFFOLK.—Wyverstone Church was recently re-opened for public worship after renovation. The chief item in the work has been the repair of the roof of the nave. The old brick floors have been renewed in local paving ware, worked to a pattern in two colours. Temporary stalls have been placed in the chancel, and the church thoroughly cleaned and recoloured. The work has been executed under the supervision of Mr. E. F. Bisshopp, of Ipswich, architect and diocesan surveyor, with Mr. Harry Nunn, of Walsham-le-Willows, as builder.

CENTRAL BOARD SCHOOL, MANCHESTER.—The new Central Higher Grade Board School at Manchester, which was opened recently, is situated in Whitworth-street. The building is of brick with terra-cotta facings, and consists of a basement, ground floor, and three upper floors. The school provides accommodation for 1,450 scholars. The basement contains the dining-room accommodation, the rooms for teaching cookery and laundry-work, a gymnasium, and a manual instruction room. The ground floor is occupied by a central hall and classrooms for girls, rooms for the teachers, &c. On the next floor are a central hall for the boys and the school of science, the boys' classrooms, the headmaster's room, and rooms for a commercial evening school. On the second floor are classrooms for drawing, teachers' rooms, cloakrooms, and the caretaker's residence; while on the top floor are chemical and physical laboratories, two lecture theatres, science master's room, balance-room, library, store-rooms, &c. The architects were Messrs. Potts, Son, & Hennings.

PUBLIC LIBRARY, FALKIRK.—This building is about to be erected on a central site in Hope-street, from the plans of Messrs. M'Arthy & Watson, Edinburgh. The principal or street floor of the building contains the reading-room, lending library, reference library, librarian's-room, &c. The upper floor contains the recreation-room (which can also be used for lectures, &c.), lecturer's retiring-room, &c. The reading-room is 51 ft. 6 in. by 29 ft. Immediately behind this apartment, and to the back of the building, is placed the lending library, 39 ft. by 37 ft. Provision is made for accommodating 10,000 volumes. The reference library, which measures 25 ft. by 20 ft., is placed to the west of the lending library, the tables being so arranged that all readers will face the attendant. Accommodation is provided for 5,000 volumes, all accessible without the use of ladders. The recreation-room, which measures 51 ft. by 39 ft., provides for sixty-four readers, besides ample space for games.

BATHS, POPLAR.—On the 25th ult. new baths, which are situated in Glengall-road, Millwall, and have been erected at the instance of the Vestry of All Saints, Poplar, were opened. The site of the new baths has a frontage of 110 ft. to the Glengall-road, and a total depth of 230 ft., the area being about half an acre, and, as the new building has a frontage of 80 ft., there is room for a walking-way 10 ft. wide on the west side, and for a cartway 20 ft. wide on the east side of the buildings. There are seven entrances. From a main corridor in the centre of the building doors open into the various departments. In addition to the large swimming-bath, there are men's second-class private baths for twenty-six, men's first-class for nine, and women's baths for five, or forty slipper-baths in all. The pond of the swimming-bath is 75 ft. long by 35 ft. wide, with water 3 ft. 6 in. deep at the south end, and 6 ft. 6 in. at the deepest part. Wooden dressing boxes, with dwarf doors in front, run round the bath on the level of the platform, and there is a gallery on all sides. The cost of the baths will be about 10,400*l.* The architects were Messrs. J. & S. Flint Clarkson.

YORKSHIRE HOME FOR INCURABLES, HARROGATE.—The foundation-stone of a new building for the Yorkshire Home for Chronic and Incurable Diseases was laid on the 24th ult. by the Right Hon. J. Lloyd Wharton, M.P., on a site near Harlow Moor, Harrogate. The new home will have about fifty beds, and there will be opportunity of extending the premises to meet the cases of 150 persons when requirements and means allow. Its cost is put at 15,000*l.* The new building will have a frontage of 157 ft. to Cornwall-road, and 80 ft. to a side road. The ground floor accommodation comprises large day rooms for patients of both sexes (thirty-five females and fifteen males), dining-room, boardroom, waiting-room, bathrooms, and wards of varying sizes, and a winter garden. More wards and bathrooms are planned for the first floor, together with nurses' rooms and asphalt airing flats

opening into the corridors by wide doors. The kitchen, scullery, store, operating-room, isolation ward, and maids' rooms will be on the second floor, while the basement will contain the laundry and boiler-house. Mr. T. E. Marshall, of Harrogate, is the architect, and Messrs. W. Nicholson & Co., of Leeds, are the principal contractors.

SCHOOLS OF SCIENCE AND ART, WESTON-SUPER-MARE.—The new Schools of Science and Art, in Lower Church-road, Weston-super-Mare, have been completed. The style of building is Renaissance. The ground story is carried out with local limestone and freestone dressings. The upper stories are carried out in freestone backed with brickwork, and have pilasters with moulded bases, carved capitals, and faience panels, also niches for statuary. The pedestals and frieze have also faience panels. The ground-floor arrangement consists of a large entrance hall, lecture-room, chemical laboratory, three trade technical rooms, committee-room, and offices. The first floor consists of a carving and modelling room, a life-study room, a master's room, an elementary room, and an advanced room, the two latter 60 ft. by 20 ft. each. The top floor has a room for lectures and demonstrations in cookery, with ranges, gas apparatus, &c., also caretaker's apartments. The contractors for the first portion were Messrs. Thos. Palmer & Son, under Messrs. Price & Wooler, architects, all of the same town; and for the completion, Mr. Henry W. Pollard, of Bridgwater, under Mr. Hans F. Price, architect, of Weston-super-Mare. The carver was Mr. J. P. Steele, of Kingsdown, Bristol.

BOARD SCHOOLS, STAFFORD.—Two Board schools, each to accommodate 190 infants, were opened at Stafford recently. One school is in North-street and the other at the Corporation-street school. The architects were Messrs. N. Joyce and H. T. Sandy. Messrs. Adams & Pemberton were the contractors, and Mr. H. Fortnum was the clerk of works.

LABOURERS' COTTAGES, BIRMINGHAM.—In the recently-completed labourers' cottages erected in Milk-street, the Estates Committee of the Birmingham Corporation seem to have good reason, says the *Birmingham Gazette*, for believing they have solved the problem of the "bottom cost" of dwellings of the particular class aimed at by the provisions of the Housing of the Working Classes Act, 1890. Calculated upon the basis of living rooms only, the cost works out at something like 62*l.* per room, but if the sculleries, &c., are included the cost is reduced to 45*l.* per room inclusive. It was under the provisions of the Act quoted that the Corporation some time ago became possessed of a substantial area of Milk-street, which was covered by some of the worst class of insanitary dwellings in the city. The site has a frontage to Milk-street of 294 ft., and to Little Anne-street of 185 ft., and upon this area they have erected fifty-six labourers' cottages and five artisans' dwellings, which, with those already built in Ryder-street and Lawrence-street, bring the total number of such dwellings now in the possession of the Corporation up to 164. The labourers' cottages, as distinct from the artisans' dwellings, are built on two stories, each house being self-contained, with living-room, bedroom, and the necessary offices on the same floor. Those on the upper story are fronted by a balcony with iron palings, and are approached by a stone staircase 4 ft. 6 ft. wide. Twenty-four of the cottages have each one living-room, averaging 13 ft. by 14 ft. and 8 ft. 6 in. high, and bedroom averaging 12 ft. 2 in. by 9 ft. 6 in.; the remaining thirty-two houses having a living-room 13 ft. 4 in. by 14 ft., one bedroom 8 ft. 2 in. by 14 ft., and an additional bedroom 9 ft. by 9 ft., all of the same height, 8 ft. 6 in. Each tenement has its own scullery, food pantry (with distinct ventilation by means of air bricks), and other necessary accommodation, and the houses in the upper story are fitted with dust-shoots, so that there is no necessity to leave the dwelling for ordinary household work. Each tenement is divided by a 9 in. brick wall, the walls between the living-room and the bedroom being constructed of 4½ in. brickwork. This scheme is maintained throughout with the exception of the five artisans' dwellings, which have each two bedrooms, the division walls of which are either of plaster and metal lathing, or lath and plaster. The cottages front on Milk-street and Little Anne-street, whilst at the rear is a large open space, 30 ft. wide, paved with blue bricks, which may be used as a playground for the children, or for any other purpose which the tenants may desire. Good grates and ovens are provided in every house, and the necessary fittings have been put in so that penny-in-the-slot gas meters may be used. Each house has its own closet, with flushing cistern; the sewers are ventilated. There is a concrete foundation under all the walls. They have been erected by Messrs. B. Whitehouse & Sons, to the designs of Mr. J. Tart, the manager of the estates department. The cost of the site was 6,000*l.*, and the buildings, including sewers, drains, roads, concrete foundations, &c, 10,100*l.* The houses let at an average rate of 1*s.* 6*d.* per week per living room, and the gross annual income is estimated at 659*l.* 2*s.*, from which there will be the customary one-third allowance for rates, water, and voids and repairs.

NEW WING, SEAMEN'S HOSPITAL, &C.—The branch hospital in the Royal Victoria and Albert Dock, which was built in 1890, provided accommodation for fifteen patients. To this has now been added a new wing with two large wards and private rooms which increases the accommodation to fifty beds. The two principal wards in the new wing contain eighteen beds each, and are 87 ft. by 28 ft. in area, and 13 ft. 6 in. in height, giving 1,827 cubic feet to each bed. There is a complete system of cross ventilation throughout. There is a window between every bed and the general effect is one of light and cleanliness. Each bed is lighted by a separate electric-lamp, and at every other bed there is a wall plug fixed both for hand light and for use when it is desired to apply galvanic treatment. Over each bed, instead of the old-fashioned medicine shelf and board for case papers, is a plate glass shelf supported on gun metal brackets at a convenient height from the floor; attached to these brackets are brass hooks, upon which are hung the case papers. Nearly all the medical and surgical fittings in the wards are of brass and plate glass. In the centre of each ward stands a brass and glass medicine and poison cupboard, on indiarubber tyred castors. The tables are also of brass and glass, as are the wash-hand stands for the staff and the lotion stands. The lockers are of dull oak, and so constructed as to form a seat, a bed table and a locker. On the top there is an opal slab, which can be removed for cleaning, and at the back a small shelf to hold the patient's porringer, a book, &c. There is also a towel rail at the back. The lockers move upon free-running castors. The wards are furnished with Lawson Tait patent spring bedsteads, 27 in. high from the floor. In the surgical wards the heads of the bedsteads can be raised and lowered for the administration of anæsthetics. Mackintosh cupboards of a new and improved design stand in the wards. These are made of teak and have rails which pull out from the centre; when not in use the whole is covered with a cretonne curtain which is periodically removed and washed. The top is tiled and forms a useful table. The wards are heated by Teale's patent stoves. Each ward is provided with a coal bunker in teak and brass, the top of which can be used as a table. These are mounted on free-running wheels, and thus can be moved with the greatest ease. The floors of the new wing are entirely in terrazzo, the principal colours being white and red. There are no angles to the wards, all corners being rounded off. The hospital is provided for the first time with a lift, 7 ft. by 4 ft. 6 in., which runs from the basement to the top story, where is also a new operating theatre. This is lined throughout with glass, and so is the sterilising-room adjoining. The sinks, basins, &c., are of porcelain, and stand out from the wall, being fitted in each case with hot and cold water, which is turned on and off by the foot. All the pipes supplying the basins, &c., are of copper, and run about one inch off the wall. At the foot of the operating table is a steam towel warmer. The sanitary arrangements are in a detached tower at the end of the wards and consist of the usual offices, including bathroom and specially arranged sink. The new Nurses Home is provided with a general sitting-room, and with a separate bedroom for each nurse. The buildings of the London School of Tropical Medicine stand in the grounds of the Branch Hospital. This situation, though inconvenient in some respects, has the pre-eminent advantage that it is close to a point where ships in large numbers are constantly arriving from all parts of the tropics. This allows of the immediate transfer of the sick from the ships, and thus gives opportunities for the study of cases of tropical diseases in their acute stages. The school buildings consist of laboratories with accommodation for resident students and quarters for a resident medical superintendent and tutor. On the ground floor are three large well-lighted laboratories, a common-room for the staff, kitchens, and other offices. On the first floor are the medical tutor's office and rooms, and bedrooms for students. On the second floor is a library with a museum. The laboratories are well lighted, and fully equipped with the latest appliances for scientific research. There are properly fitted tables for about twenty workers. The buildings are from designs by Messrs. Young & Hall, Southampton-street, Bloomsbury-square, W.C. The following were the firms employed on the work in the new wing:—Messrs. Lawrance & Co. (builders); Mr. L. Collins (builders' foreman of works); Messrs. Dent & Hellyer (sanitary fittings); Messrs. Slater & Co. (heating apparatus); Messrs. Fawcett & Co. (fireproof floors); Messrs. De Grelle, Houdret, & Co. (terrazzo floors); Messrs. Teale & Somers (stoves); The Otis Elevator Company (lift); Mr. V. G. Middleton (electric light); Messrs. Maw, Son, & Thompson (brass and glass furniture, lockers, &c.); Mr. T. Rose (Society's clerk of works). It should be added that the whole of the buildings stand on a framework of pipes driven down through the made ground and peat, to the gravel about 28 ft. below the surface.

BUSINESS PREMISES, ABERFELDY, PERTHSHIRE.—New business premises for a firm of tailors have been built at the junction of Dunkeld-street and Atholl-terrace, Aberfeldy. The materials used for construction were red stone from Keithick quarries with dressings of red free stone from Ballochmyle. Mr. William Bell, of Aberfeldy, was the architect, and the following were the contractors:—Masonry, Messrs. Duncan, Murthly; joinery, Mr. John Adam, Coupar Angus; plumbing and gasfitting, Messrs. Menzies; slating, Mr. Alexander Robertson; plastering, Mr. John Scott; electric light wiring and bells, Messrs. Westwood, Perth; telephone work, Messrs. Anderson & Munro, Glasgow; wrought-iron gates at main entrance, Mr. Duncan Cameron, Aberfeldy. The total cost was between 4,000*l.* and 5,000*l.*

CONSUMPTION SANATORIUM, DELAMERE FOREST, CHESHIRE.—A sanatorium for the open-air treatment of consumption is being erected at Delamere Forest, in connexion with the Liverpool Consumption Hospital. The architects are Messrs. Willink & Thickness, of Liverpool, and Messrs. J. Gerrard & Sons, of Manchester, are the building contractors. The clerk of works is Mr. James Hibbert.

FREE LIBRARY, BOW.—The foundation-stone was laid recently of a free library for Bow. The architect is Mr. S. B. Russell.

NELSON HALL AND BRANCH LIBRARY, EDINBURGH.—On the 25th ult. the second of the Thomas Nelson Halls and the north branch of the Edinburgh Public Library in Hamilton-place, Stockbridge, was opened. The building stands in the triangle between the road to Saxe-Coburg-place and Hamilton-place, and next the Board School. The main entrance is in Hamilton-place, opening into a vestibule, to the right of which is the Nelson Hall, and to the left the counter for the Lending Library and the reading-room. The Nelson Hall is about 54 ft. long by 50 ft. wide, and is divided with two rows of double columns and arches carrying the roofs. The Library is placed in the centre of the building, with accommodation for 12,000 volumes. It is divided from the Nelson Hall by a glass screen, and from the reading-room by a counter. The whole of the rooms are covered with open timbered roofs, having roof-lights. The architect was Mr. H. Ramsay Taylor, of Messrs. Lessels & Taylor.

BOARDROOM, BEVERLEY GUARDIANS.—A new boardroom for the Beverley Union, which has been built at a cost of nearly 2,000*l.*, has just been opened. The building, which occupies a site adjacent to the workhouse, overlooks the Westwood. The new boardroom is 44 ft. by 27 ft., and is furnished with oak fittings. The floor is of wooden blocks on a cemented foundation. A cloakroom and lavatory is provided, and there is a separate entrance to the room for applicants for relief. Messrs. Botterill, Sons, & Bilson were the architects, and Mr. G. Pape, of Beverley, the contractor. The furniture has been supplied by Messrs. J. Elwell & Sons, the heating apparatus being arranged by Mr. J. C. Simpson, and carried out by Messrs. G. Blanchard & Co., Hull.

DIAMOND JUBILEE PAVILION AT THE EDINBURGH ROYAL INFIRMARY.—The Diamond Jubilee new pavilion at the Edinburgh Royal Infirmary, which was opened on the 26th ult. by the Princess Henry of Battenberg, is to be specially devoted to the treatment of diseases peculiar to women. The building, furnishing, and equipment of the pavilion will cost, says the *Scotsman*, about 40,000*l.* The new pavilion stands on the ground immediately to the west of the medical pavilions purchased by the managers from the directors of the Sick Children's Hospital. Its length is 220 ft. by 65 ft. in width. Designed by Messrs. Sydney Mitchell & Wilson, architects, its style is a free treatment of the Scottish Baronial, dictated more or less by the character of the adjoining pavilions. The Diamond Jubilee pavilion is built of red Corsehill stone. It is five stories high, and contains basement, three floors of wards, and attics. At the south end the corner turrets, instead of being round, as in the main buildings, are octagonal, that form being more convenient for baths and ward lavatories, for which the turrets are used. They rise to a height of 95 ft. Between them are open balconies opening from each ward. On the face of one of these balconies is a memorial granite stone, in which is cut an inscription. At the north-east angle of the pavilion there is a large square tower, rising to a height of 100 ft., in which has been constructed a staircase, as also, in the upper stages, electric fans for the ventilation of the building. On the basement floor a new bathing establishment is placed. It contains a Turkish bath with three hot rooms graduated in temperature, a douche room, vapour, needle, sulphur, electric, and other medicated baths. There is a cooling-room, 70 ft. long by 10 ft. in width, and provision has been made for dressing-rooms, lavatories, and accommodation for attendants. All this portion of the building is lined and floored with tiles of various patterns and colours. Between the bathing establishment and the ward above there is a double concrete floor with intermediate ventilated air space, so that the heat from the baths will not penetrate to the wards overhead. The new pavilion is connected with the main buildings of the infirmary by a covered corridor on the ground floor and an open gallery on the first floor. The staircase giving access to the different wards is 30 ft. by 20 ft., and the wards are also in communication with each other by means of a passenger lift, large enough to contain a patient and bed, and separate lifts for food and coals. The staircase is cut off from the wards, at the different levels, by means of a ventilated corridor with glass doors, so as to prevent contaminated air passing from one ward to the other. The ward on the ground floor above the basement is intended to be used as an ordinary spare medical ward, which will be brought into use when any of the wards in the

medical hospital are being cleaned, or in any other contingency. Its chief ward, 102 ft. by 28 ft., is capable of containing twenty-two beds, with a window between each of them. On the northern end, which is divided into two halves by a corridor 10 ft. wide, are a lecture-room, three wards of two beds each for special cases, a convalescent-room, 35 ft. by 20 ft., to be used also as a dining-room, a nurses' room, ward kitchen, linen stores, and ward baths, lavatories, &c. The wards on the first and second floors are those specially designed for the treatment of the diseases of women. Both wards are identical in size and in the manner in which the accommodation is arranged. Entering from the staircase at the north end is a corridor, on the right of which are the operating room, two special wards of two beds each, one of which will be used as an anæsthetic room, a demonstration or lecture-room, a room for outdoor patients, and a physicians' room. The lecture and out-door waiting-rooms are separated from each other by a movable screen, so that at pleasure they can be formed into a convalescent room 35 ft. by 20 ft. On the left of the corridor are the ward kitchen, bathroom, lavatories, an isolation ward with one bed, nurses' bedroom and parlour, linen stores, &c. The main wards, like that below them, will be 102 ft. by 28 ft., and each contains twenty-two beds. The operating-rooms have been tiled throughout. It may be mentioned also that the wards of the pavilion are not strapped and lathed. The plaster is laid on a brick lining separated from the outer wall by an air space. The floors are of iron and concrete, and the floor-boards are nailed to a layer of asphalt laid on concrete. All corners throughout the building are rounded, there are no cornices, and the mouldings on the doors and windows are of the simplest kind. The attic floor contains fourteen single rooms for fourteen nurses, and seven rooms for servants, besides ample lavatory, bath, and boxroom accommodation. The main lifts go to the attic floor. The ventilation will be by means of electric fans placed in the north-east angle tower; and for heating, steampipes and radiators will be employed. In each ward there will be an open fireplace. The contractor was Mr. Colin M'Andrew. At present there is being erected between this large pavilion and the laundry on the north two buildings of smaller size—one for the treatment of diseases of the ear and throat, and the other for diseases of the eye. The infirmary kitchen accommodation has quite recently been overhauled and enlarged at a cost of about 6,000*l*. The kitchen is situated in the central administrative block, and its enlargement has been effected by annexing certain storerooms, for which accommodation had elsewhere to be found. The kitchens have been doubled in height, they have been tiled from floor to ceiling, and a system of ventilation has been introduced so as to prevent the smell of cooking from permeating the adjoining buildings.

STAINED GLASS AND DECORATION.

CHAUCER MEMORIAL WINDOW, ST. SAVIOUR'S CHURCH, SOUTHWARK.—A stained glass window in memory of Chaucer was unveiled in St. Saviour's Church, Southwark, on the 25th ult. The window, which is in the north aisle, was designed by Mr. C. E. Kempe.

WINDOW, HEALEY CHURCH, ROCHDALE.—A five-light stained glass window has been placed in the west-end of this church, and two small lights in the porch. The subject depicted in the west window is that of "Worship," as shown in the fourth chapter of the Revelations. The centre light contains a figure of our Lord seated on the rainbow throne, while below and in the lights on either side are the four and twenty Elders. In the upper portion of the side lights are angels with instruments of music and censors. The tracery contains figures of the four Evangelists with their emblems. The porch window represents the Pharisee and Sinner. The work is from the studio of Messrs. Percy Bacon & Brothers, London.

FOREIGN.

FRANCE.—Works are to be commenced shortly at Nantes, for the construction of a new quay on the left bank of the Loire, at an estimated expenditure of 875,000 fr.——The new buildings of the college at Cambrai have just been opened.——M. Baumier, architect, of Caen, has been elected President for the ensuing year of the Société des Architectes of Basse Normandie.——M. Nénot, the architect of the new Sorbonne, has entrusted to M. Poilpot, the painter, the decoration of the two vestibules of the Faculté des Sciences and the Faculté des Lettres. The decoration will consist of ten panels reproducing the characteristic monuments of various ages; for Egypt, the Temple of Philæ; for Greece, the Acropolis; for Rome, the Forum; for the Byzantine Age, Saint Sophia; for Arab art, the Alhambra—and so on. This important piece of decoration will be completed in the course of next year.

GERMANY.—The library of the University of Heidelberg is to be rebuilt at an estimated cost of nearly one and a half million marks. The library is separate from the main university building and contains one of the most valuable collections of books and ancient MSS. in Southern Germany. The university was founded in 1386 by Elector Rupert I. On the occasion of the 500th anniversary of its foundation, the aula was restored.——Designs are invited by Mr. Robert Hoffmann, of Dresden, for an art exhibition salon in that city. The competition is open to all architects. The premiums are 1,000, 500, and 300 marks for the sketches adjudged first, second, and third in order of merit respectively, and the competition will close on December 15 next.

AUSTRALIA.—The Legislative Assembly of New South Wales has decided to proceed with the erection of the bridge to North Shore, Sydney, as soon as the designs invited in competition with Australian engineers have been received from London.——The authorities of the Melbourne University contemplate building a metallurgical laboratory and geological school as part of a large central mining school in the city. The estimates for the laboratory are 2,000*l*., and for the school 6,000*l*.——The Government of New South Wales has voted a sum of 5,000*l*. for providing workshops, appliances, &c., at Newcastle in connexion with harbour and other works.——The Bendigo (Victoria) Council is about to erect iron girder bridges in the district, at a cost of about 7,000*l*.

MISCELLANEOUS.

GLASGOW TECHNICAL COLLEGE ARCHITECTURAL CRAFTSMEN'S SOCIETY.—The second meeting of the Society was held on Friday, 26th ult., when Professor Henderson lectured on "Chemical Notes of Building Materials." The lecturer pointed out the various constituents of the atmosphere which acted on materials with regard to their permanency, mentioning elementarily (1) water vapour, (2) carbonic acid and oxygen. Metals were shown to be the most susceptible to atmospheric influences, because of their undergoing corrosion due to oxygen, and in the air of towns this action was greatly promoted owing to the presence of injurious acids. Regarding iron, the various methods of protecting, with the merits thereof, and the precautions necessary to their proper application, were demonstrated, and attention was directed to the galvanic action set up between certain metals, such as tin and iron, on exposure to the air, which action aids the corrosion of the iron. In galvanising with tin this was occasioned by any flaw in the coating, but so long as the coating was intact, galvanising by means of zinc, tin, or nickel was effectual as a protection to iron. The matter of the galvanic couple set up by the contact of iron and lead in the fixing of iron railings was noticed, and sulphur was also considered to be objectionable; cement being particularised as being the most suitable for this purpose. Regarding lead and zinc, the lecturer stated that great care should be exercised in using these for the storing and conveying of water, and on no account should these be used in the construction of cisterns for water to be used for drinking or cooking purposes, as zinc is dissolved by soft water, and lead, when exposed to air and water, produced a compound of lead soluble in water and poisonous. Slate for cisterns was recommended. The lecturer dealt further with various metals, stone, and wood, and remarked in the case of stone that the more compact it was in structure the less likely it was to be affected by external influences. In conclusion, attention was drawn to the elementary facts treated of, which were of great importance and which were too often overlooked. A vote of thanks proposed by the President was heartily accorded.

DEPRESSION IN THE BRICK TRADE.—The brickmakers of Birmingham have been meeting for the purpose of considering the depression under which the industry is at present suffering and the possibility of devising a remedy. The depression is said to be due to a variety of causes, the chief of which however appears to be the excessive cost of fuel. Dear fuel has raised the cost of the various articles used in building operations to such an extent as to bring about the collapse of the building industry. With a diminished demand for bricks has succeeded a severe competition, and a fall in prices to an unremunerative level. Fuel prices have advanced from 100 to 150 per cent. in eighteen months, and whilst the cost of production has thus increased, since April of last year prices of common bricks have fallen from about 27*s.* per thousand to about 22*s.* The West Bromwich and Oldbury brickmakers are said to be in many respects more favourably situated than the Birmingham makers. Serious complaints are made by the latter as to the system of rating. They are assessed according to the amount paid on royalty, which in Birmingham is said to amount to 2*s.* 6*d.* or 3*s.* per thousand, while in the Black Country it is only about 6*d.* The manufacturers have placed themselves in communication with the Steam Machinery Users' Association, with the view of taking combined action against the assessment, which will involve an appeal to the Court of Quarter Sessions. Of the thirty brickyards in the city, owned by about twenty firms, over half have been closed, and the remainder are working less than one-fourth time. A committee which has been making inquiries has submitted a scheme for the combination of all the manufacturers in an automatic pooling arrangement. Each manufacturer is to pay a certain contribution, say of 1*s.* per thousand bricks produced, into a common fund, which will be distributed *pro rata* amongst the members, the firms who produce the smallest quantity consequently reaping the largest share of advantage. The manufacturers are to be left free to fix their own prices, and there is to be no restriction as to the quantity produced. The scheme is still under consideration.—*Birmingham Post.*

THE OLD EXCISE OFFICE, OLD BROAD-STREET.—In a footnote in relation to this building, p. 359 *ante*, it was stated that the design had been attributed, among others, to "J. Gandy." It should have been "J. Gan lon."

NEW RESTAURANT, THROGMORTON-STREET.—Messrs. Mark Patrick & Son ask us to mention that they were the contractors for this work, briefly mentioned in our last issue (p. 373).

NATIONAL REGISTRATION OF PLUMBERS: CONFERENCE AT BIRMINGHAM.—The Lord Mayor of Birmingham presided at a public meeting held in the Council Chamber, Birmingham, on Wednesday, the 24th ult., the meeting being attended by representatives of various associations and district councils working in conjunction with the National Registration of Plumbers. Previous to the public meeting a Conference was held in the Council Chamber under the presidency of Mr. Robert Crawford, at which the following resolutions were passed. On the proposition of the Chairman, seconded by Dr. Alfred Hill,

"That in the opinion of this Conference, representing the Public Health and Water Authorities and the Master and Operative Plumbers of Great Britain and Ireland, it is desirable, and would be a great public advantage, if a measure should be passed through Parliament with the object of protecting the public from the results of bad and incompetent workmanship, and securing the efficiency and responsibility of plumbers through a system of registration of the qualified masters and operatives; and that it is the duty of the Government, acting in the public interest, to carry through a measure with this object."

On the proposition of Dr. Williams (Plymouth), seconded by Bailie Dick (Glasgow),

"That twelve representatives of the District Councils be appointed to act in conjunction with the company in approaching the Local Government Board for the purpose of framing a scheme for a Plumbers' Registration Bill, and taking such steps as they may deem necessary for such legislation."

On the proposition of Professor Matthew Hay (Aberdeen), seconded by Dr. Bostock Hill (Birmingham),

"That this Conference approves of the establishment of two grades of registration, one for operative plumbers, in which the examinations would be essentially a test of workmanship and an oral examination substituted for the present written examination; and the other requiring a higher standard of technical knowledge for master plumbers, inspectors and plumbers occupying similar positions; and that it be remitted to the Company and the representatives of the Conference already appointed to prepare a scheme under this resolution, including the question of fees, and after submitting it to the District Councils for their opinion, and finally adjusting it, to put the scheme into operation."

The Lord Mayor, in welcoming the members of the Conference, said that Birmingham was an appropriate place for the Conference, as at present they were engaged in substituting for a pumping scheme, which, for the size and population of the district, was meagre, a gravitation scheme which would give them an ample supply of pure water, and in the matter of water supply plumbing had a very important part to play. There was a difference in one respect between the plumbing which dealt with the public health and that which dealt with the water supply. When the water pipes leaked, people were anxious about their ceilings and carpets, and lost no time in sending for the plumber, but when there was a bad smell they were not so eager to do so. The public, it was to be feared, did not appreciate sufficiently the necessity of looking after all those invisible matters which only make themselves known by their odour. Surely, then, it was all the more important to large communities like theirs that the trade on which all that depended should be of the best possible character.—Mr. Robert Crawford, as Chairman of the Conference, read the resolutions, passed at the Conference. He said the plumbers of this country and their public representatives had been engaged during the past sixteen years in educating the public, the Local Authorities, and the masters and men in the trade, and in creating a higher standard of appreciation of knowledge and of responsibility. They had been successful in creating throughout the whole of Great Britain and Ireland a network of organisation which already had produced splendid results. No one who had had experience of public health matters would deny that an immense improvement had taken place in plumbing work during the last sixteen years in this country.—Alderman Cook, Chairman of the Health Committee, Birmingham, moved a resolution endorsing the decisions of the Conference, supporting its efforts in the interests of the public health, and urging the Government to carry through the Bill for the National Registration of Plumbers.

STREET IMPROVEMENTS, LINCOLN.—A Local Government Board inquiry was conducted at Lincoln on the 24th ult. by Inspector North, with reference to an application by the City Council for sanction to borrow 4,261*l*. for the purchase of land

for street improvements, and 1,663*l.* for puposes of paving. The Surveyor (Mr. R. A. MacBrair) stated that it was proposed to widen the western end of Saltergate to St. Swithin's-square. The present width was 8 ft., and they proposed to widen it to 30 ft. 8 in. The total length proposed to be widened was 620 ft.

PORT OF BRISTOL.—The Bristol City Council have decided to promote a Bill in the ensuing Session of Parliament giving powers for dock works at Avonmouth. The outlay is estimated at 1,804,700*l.*

PROPOSED REFUSE DESTRUCTOR, GORTON, LANCASHIRE.—A Local Government Board inquiry was held recently at the Gorton Town Hall with reference to the application of the Gorton Urban District Council for sanction to borrow 13,111*l.* for the erection of a refuse destructor at Sunny Brow. The scheme has met with some opposition, and at the inquiry—which was conducted by Colonel W. R. Slack—Mr. Hinnell, engineer, of Bolton, appeared in support of the case for the opponents. Evidence was also given by Mr. James Johnston, engineer, Manchester.

THE CASTLES OF YORKSHIRE.—The annual dinner and meeting of the Bradford Historical and Antiquarian Society was held on the 26th ult. at the Café Royal, Darley-street, Bradford. Mr. J. Norton Dickons, the newly-elected President, occupied the chair. After dinner, Mr. T. Howard (hon. secretary) read the twenty-second annual report of the Committee, and the hon. treasurer (Mr. W. Glossop) read the balance-sheet. Mr. C. R. Federer moved the adoption of the report and balance-sheet, which was seconded by Mr. J. A. Clapham, and agreed to. During the evening the President read a paper on "The Ancient Military Defences of Yorkshire," in which he classified the remains of military fortifications existing in the county, and suggested a number of places which should be visited by the Society. He pointed out that no county was richer in early earthworks and mediæval castles than Yorkshire. Scattered over the eastern and south-eastern parts of Yorkshire were a number of entrenchments, the origins of which were lost in darkness. Many of these had probably been thrown up for cattle enclosures or as tribal boundaries. Then there were a number of mounds—raths, as Professor Phillips called them, or "motes," as Mrs. Armitage styled them—such as the great earthworks at Barwick-in-Elmet, which were probably the work of the great Saxon landowners, while some were afterwards utilised by the Normans and their successors. It was not until after the Norman Conquest that castles in stone began to be built in England. Where there was an earlier work big enough and strong enough to carry a stone wall, the Normans utilised it, and erected thereon a shell such as that at York. Where there were no mounds, or the situation chosen was a new site, the Normans erected their works on a different plan. Specimens of rectangular keeps like those at Richmond, Middleham, and Scarborough, and the one circular keep at Conisburgh, were described in detail. As a specimen of the class of castles known as "shell-keeps," those of Clifford's Tower at York, Sandal, near Wakefield, Pontefract, and Tickhill, were described. In this species of castle a wall was erected on the top of, or surrounding, a mound of earth of earlier date, and the buildings were arranged inside the enclosure and against the wall. After the time of Henry III., when the country became settled, the building of castles was discouraged, and a noble was only allowed to fortify his manor-house or to erect a castle upon a licence from the Crown. No first-class castle was erected in Yorkshire after 1307, and those that were erected subsequently were more palace-castles for habitation than castles for defence. Bolton Castle, near Leyburn, was the largest and best preserved of these fortified manor-houses in Yorkshire, and perhaps the best preserved of its kind in England. By the time of the Civil War and the Commonwealth the castles were falling into decay, and after the fighting they were ordered by the Parliament to be "slighted," which was done by blowing them up.—On the motion of Mr. John Clapham, seconded by Mr. W. Glossop, thanks were accorded to the officers of the Society, and to those who had assisted in the work by contributing papers or in other ways.—*Bradford Observer.*

FALCON-COURT IMPROVEMENT, BOROUGH. — At the Surveyors' Institution, Westminster, on Friday last week, Mr. G. R. Askwith, barrister-at-law, sat as sole arbitrator to decide the value of the freehold interest in the cottages, Nos. 1 to 23, Red-cross-place, in the Borough, required by the London County Council, who are the Local Authority for carrying out the London (Falcon-court, Borough) Improvement Scheme, 1895. The claimants were the trustees of the London Parochial Charities, who claimed for such a sum as, when invested in Consols, would produce the present ground-rent of 140*l.* per annum. The arbitration took place under the Housing of the Working Classes Act, 1890. Mr. R. Nevill appeared for the claimants, and Mr. Corrie Grant represented the London County Council. The property in question, it was stated, was a portion of the Falcon-court area, which had been condemned as insanitary by the Inspector of the Local Government Board. The cottages let in single rooms produced a gross annual rental of 572*l.* The property was leased for a period expiring in 1938 at a ground-rent of 140*l.* per annum. The County Council had already acquired the leaseholders' interest at a cost of 2,500*l.*, and had settled all the other forty claims involved without arbitration. It was claimed on behalf of the Council that the reversion was of no value. Mr. Herbert Winstanley and Mr. W. E. Horne, surveyors, valued the freeholders' interest at 4,467*l.*, Mr. J. F. Field at 3,000*l.*, Mr. Daniel Watney at 3,120*l.*, and Mr. Harper, assistant valuer to the County Council, at 3,180*l.* The arbitrator reserved his decision.

VALUE OF LAND AT WEST HAM.—At the Surveyors' Institution, Westminster, on the 24th ult., Mr. Alfred Savill sat as arbitrator in the case of "Smith *v.* the West Ham Corporation," to determine the value of 3 a. 3 r. 21 p. of land at Silvertown, adjoining the Victoria Dock and the Victoria Graving Dock, which the Corporation have acquired for the erection of artisans' dwellings. Mr. C. B. Marriott appeared for the owner of the land, Mr. Charles Smith; and Mr. E. Morten, Recorder of West Ham, represented the Corporation. Mr. Arthur Tapp, of the firm of Messrs. Tapp & Jones, surveyors, Princess-street, Westminster, said there was a great demand for house accommodation in the district, and the value of land had, during the last few years, largely increased and was still increasing. The piece of land was, until lately, used for grazing, at a rental of 13*l.* per annum. His total valuation was 7,148*l.*, inclusive of 10 per cent. for compulsory sale. After Mr. Morten had addressed the arbitrator it was agreed to accept an award of 5,565*l.*, subject to the decision of the referee as to 120*l.*, the value of 20 ft. of frontage in North Woolwich-road, the title of which was questioned. The amount was practically on the basis of 6*l.* per ft. frontage for North Woolwich-road, and 3*l.* 15*s.* per ft. frontage in other adjacent roads.

ELECTRIC LIGHT, SLEAFORD, LINCOLNSHIRE.—A Local Government Board inquiry was held at Sleaford on the 24th ult., into an application by the Urban District Council for sanction to borrow 7,000*l.* for electric lighting purposes. The scheme was explained by Mr. E. Bremner Smith, of Oswestry, the engineer.

CAPITAL AND LABOUR.

REDUCTION OF DUNDEE MASONS' WAGES.—Mr. Joseph Wilkie, the secretary of the Dundee Master Masons' Association, has, as the result of a meeting of the master masons, sent intimation to Mr. J. Hume, secretary of the Dundee Operative Masons' Society, of a reduction on the wages of 1d. per hour. The present rate is 8d. per hour. Three months' notice has to be given, and the reduction is to take effect on February 16 next.

LEGAL.

CASE UNDER THE LONDON BUILDING ACT, 1894.

HOSKINS *v.* DICKSEE.

AT Southwark Police-court, on October 24, Mr. Kennedy gave his decision in an appeal under Section 150 of the London Building Act, 1894, by Mr. F. C. Hoskins against a notice of objection served on him by Mr. Bernard Dicksee, District Surveyor for East Newington, in respect of the Horseshoe beerhouse, 87, Old Kent-road.

The case was argued before Mr. Kennedy on October 17, when Mr. Gates appeared for the appellant, and Mr. Horace Avory, instructed by Mr. D. P. Andrews, of the Solicitors' Department of the London County Council, appeared for the District Surveyor.

The appellant, a builder and contractor, had entered into a contract to rebuild the house in question which had been for many years licensed for the sale of beer and wine. The new building, the plans of which had been approved by the licensing magistrates, would exceed ten squares in area, and was planned with bar, bar parlour, and public-room on the ground floor, cellars in the basement, and dwelling-rooms on the first and second floors. The District Surveyor had decided that this building was one to be used in part for the purposes of trade, and in part as a dwelling-house, and had therefore served notice of objection on the ground that Section 74 (2) would be contravened, requiring the part used for trade to be separated from the part used as a dwelling by walls and floors of fire-resisting material, the staircase and other means of approach to the part used as a dwelling to be constructed of fire-resisting materials, and the doorways for inter-communication between the trade and dwelling portions to be fitted with fire-resisting doors. Against this notice of objection the builder appealed.

On behalf of the appellant, Mr. Gates urged that the licensing magistrates had approved the plans, and that the case was governed by the decision of Carritt *v.* Godson (1899, 2 Q.B., 193), in which case it was decided that a fully-licensed public-house did not come within Section 74 (2).

On behalf of the District Surveyor, Mr. Avory argued that the approval of the licensing magistrates to the plans could not affect the requirements of the Building Act, and that the present case was distinguishable from the case quoted, inasmuch as the learned Judges had based their decision on the assumption that a public-house was practically an inn, and that consequently, in a sense, the whole of the premises were used for trade. This was not the case with a beerhouse, which was simply a shop for the sale of beer and wine, and on the same footing as a butcher's, draper's, or any other shop. The trade of a beerhouse was required by the Alehouse Act to be carried on in a dwelling-house, and the holder of the licence was required to enter with the Excise authorities the exact rooms in which he intended to carry on the sale of beer, being liable to a fine for selling beer in any other room not so entered. To hold that a house for the sale of beer was exempt from the section would be to read into it some such words as "but this section shall not apply to premises in which the sale of beer is carried on." There was no obligation implied or direct on the holder of a beerhouse licence to let bedrooms, as was the case with fully-licensed premises.

Mr. Kennedy, in giving his reserved decision, said that he could not distinguish the present case from that of Carritt *v.* Godson, by which he was bound. He must, therefore, allow the appeal with 5*l.* 5*s.* costs.

On the application of Mr. Andrews, he agreed to state a case for the consideration of the High Court. Mr. Gates urged that a case should not be stated; but Mr. Kennedy said he had carefully considered that point. The case was not on all fours with Carritt *v.* Godson, which dealt with fully-licensed premises, whereas this was only a beerhouse; moreover, his sympathies were with the attempt to enforce the section.

RECENT PATENTS:

ABSTRACTS OF PATENTED INVENTIONS.

13,634.—DRAWING AND RULING PENS: *F. Gaufroy.*—In order that one adjustment may answer for setting out lines of varying thickness the pen's handle is formed of two parts pivoted together upon which the nibs or blades are mounted; a spring presses the nibs together for drawing fine lines, and is adjusted with a screw. When a thicker line is needed the two parts are pressed together in the act of ruling so as to separate the nibs to an extent which is limited by another screw which has been already adjusted.

13,640.—A SASH FASTENER: *T. B. Parsons.*—On to the inner meeting-rail is screwed a plate on which is pivoted a lever whose hinged handle becomes turned down when the lever has been moved into engagement with a catch on the other meeting-rail; in order that the contrivance may serve for sashes of different thicknesses the lever's end is caused to pass beneath an inclined plane so that its teeth shall engage with a rack accordingly with the widths of the meeting-rails.

13,641.—AN ANTI-FREEZING CONTRIVANCE FOR WATER PIPES: *T. Schratzenstaller.*—One end of a metal rod which has a large co-efficient of expansion is fastened to a wall, a roller upon its other end bears upon the arm of a lever that works upon a pivot, whilst its longer arm is secured adjustably to a slotted plate, a rod joins the slotted plate to another plate within a cylinder which under normal conditions shuts the feed-pipe's nozzle, the cylinder is connected to the water-tank by an overflow pipe; at a fall of the temperature the contraction of the metal rod effects an uncovering of the feed-pipe nozzle, whereupon water will rise within the cylinder and overflow into the tank and service pipes.

13,645.—ARTIFICIAL STONE SLABS FOR BUILDING PURPOSES: *T. Knight.*—The slabs are intended for use in constructing fire-proof partitions, floors, conduits, tanks, &c., and are fashioned with grooves in their edges for keys of cement; for floors they may be curved or flat and be grooved so to engage with and to enclose the iron joists' lower flanges; in the case of fireproof partitions the slabs are laid upon grooved blocks of artificial stone upon a foundation of cement, the flooring joists of wood or iron being sustained with brackets or hangers set at intervals upon the slabs. Other similar applications of the invention are specified.

13,665.—ARTIFICIAL MARBLE: *F. Hayden.*—A solution of chloride of magnesium together with some mineral colouring are added to an admixture of ground non-calcareous magnesite, sand, marble dust and gypsum, &c.; with that compound marble-like veined patterns are drawn upon a polished base covered with a very thin layer of celluloid; after the pattern has become set a similar filling is poured over it, the colours are fixed by heating the slab to 300 deg. C., it is then saturated with mineral wax, polished with a celluloid solution, and lastly is rubbed with a waxed felt cloth.

13,700.—AN APPLIANCE FOR USE WITH T-SQUARES: *T. H. Roden.*—The inventor's object is to provide means of preventing the square from slipping, and of holding it upon the drawing-board. A spring secures upon the board a gripping-plate, whose pivot pin is carried by the lugs of a plate which is attached to the stock of the square.

13,701.—HOT-WATER APPARATUS: *R. E. Phillips.* The apparatus consists of an injector for heating water for baths, lavatory basins, and similar purposes with steam. A nozzle, forming the steam inlet, is inserted loosely into the conical end of the

hot-water outlet, and the outlet's lower portion is fashioned in the shape of a double cone in order to accelerate the mingling of the steam with the water. Automatical valves are fitted to the cold water and steam supply pipes.

13,758.—TREADS FOR STAIRS, LADDERS, STEPS, &C., AND LATHE TREADLES: *A. L. P. Chasles.*—The inventor makes the treads out of metal plates wherein holes are punched so as to raise burred edges, and they are to be secured in their places with screws or the folding-over of their flaps.

13,764-5.—WINDOWS AND CASEMENTS: *R. L. Williams and T. Payne.*—For opening and closing the windows, and retaining them in any position required, nuts are attached to the sash stiles and screws which pass through the nuts are to be turned by means of endless cords that travel around pulleys. For turning casements and enabling their ready movement across the frame in order that they may be cleaned upon their outer sides, they are hinged on to runners or sleeves which are caused to slide along guides or rods.

13,788.—DOVE-TAILING MACHINERY: *J. E. Erickson.*—The sets of saws are separated with distance-pieces, and automatical clamps hold the boards down upon the table; in the case of mortises which are to be cut with two sets of saws, the table—whereon the board has been laid against front-stops and a fence at the side—is reciprocated by means of the crank's connecting-rod, whereupon a spring clamping-bar is released. The clamping-bar, which holds the board during the movement of the saws, frees the board, at the end of the stroke, by means of contact with stops; at that moment the friction gear becomes disengaged by the action of a cam, and the table's motion ceases. The friction gear that turns the crank is brought into action by the pressing down of a foot-lever; two sets of saws carried by reciprocating frames at the machine's other end cut the tenons; the front stops for the boards consist of hooks upon the ends of sliding rods, whose position is adjusted with a screw.

13,834.—CALCINING FURNACES: *W. B. Devereux.*—The charge is to be stirred with hollow rakes wherein water circulates, and metal channels in the furnace walls, with their outer surfaces exposed to the air, carry and work the rods which sustain the rakes; the rods also are made hollow for the circulation of water within them, the water being supplied through flexible pipes from a tank above; the hollow teeth of the rods should be formed of porcelain.

13,849.—INCANDESCENT LAMPS: *J. Atherton.*—Two slots, to correspond with grooves in the bulb's neck, are cut in the bayonet or screw cap which is fastened against a shoulder upon the neck of the bulb with a wire which is placed in the slots and grooves and whose ends are to be twisted together. For replacing a filament the bulb is fashioned with a long neck divided with a hot wire, or otherwise, and then joined together again. The new filament is firstly mounted upon short wires that have been connected to the leading-in wires.

13,883.—WINDOW SASHES: *A. Tomlinson & W. Phillips.*—For the exclusion of rain and draught the rabbetted stiles of the reversible sash and frame are fitted with doubly rabbetted weather bars or strips, and air baffles or grooves are also formed opposite one another. To render the pivot or hinge weather-tight an extension of the hinge socket's flange is cut away that it may engage with recessed and projecting portions of the hinge pin's flange.

13,895.—PORTABLE STRUCTURES AND BUILDINGS: *E. Payart.*—For the construction of field hospitals, huts, railway stations, silos, wells, &c., are used corrugated plates, bolted, hooked, or otherwise fastened together, sand, shingle, straw, &c., being filled into the spaces in the hollow walls, which are then closed with horizontal plates. The wall-plates will be laid upon the ground or upon foundation-plates sunk into the soil, and angle-iron pillars secured to spiked foundation plates will serve to stiffen the corners of the building; tie-bars are employed for bracing the hollow roof that is fastened on to vertical plates which will slide upon the wall-plates to enable one to lift the roof and so to uncover the openings for ventilation. The lifting of the roof above the walls can be effected by an arrangement of screws and "lazy-tongs" levers.

13,904.—MORTISE LOCKS: *T. Letheren.*—In order that the case's rear portion shall be as small as possible, the inventor devises a method of moving the bell crank lever, which works the latch-bolt, by the follower. A knuckle-joint joins the follower to the arm that presses upon the lever, so that if the follower is turned in one direction the arm will be lifted as though it were attached rigidly to the follower, but when the follower's motion is reversed the arm is caused to turn upon a stop-pin which serves for a fulcrum.

13,925.—A SOLDER SUPPLY: *J. F. Kester and F. A. Hecht.*—The inventors make a self-fluxing solder by preparing a solder with a series of cavities into which some suitable flux is to be filled, thus a proper quantity of flux will be automatically furnished during the process of soldering. In one shape a tube of solder charged with flux is passed between rollers which will form the cavities for taking the flux.

13,951.—CRANES: *T. S. Mossman.*—The contrivance is devised for application to derrick cranes. A ball, fitted at the lower end of the jib, is caused to bear in one of several cups, which are fashioned in a flange that is bolted on to the mast of the crane, and is held in its place by means of a retaining-cap.

13,954.—A MACHINE FOR BEVELLING GLASS: *J. H. Lovell and J. W. King.*—A conical grinding-face is fashioned upon the wheel which is mounted upon an inclined spindle; a reciprocating table, which is vertically adjustable at both its back and front, carries the glass plate, and is slightly tilted so that it shall throw the bevelled edge of the plate into a horizontal level. A roller or a pad upon a weighted lever holds down the plate, whose edge just overlaps the grinding face's inside edge, the wheel being turned in a direction that will keep the plate in close contact with the back-stops.

MEETINGS.

FRIDAY, NOVEMBER 2.

Architectural Association (Discussion Section).—Mr. H. Rose on "Church Bells." 7 m.

Sanitary Institute (Lectures for Sanitary Officers).—Professor Henry Robinson on "House Drainage." 8 p.m.

SATURDAY, NOVEMBER 3.

British Institute of Certified Carpenters.—Meeting at Carpenters' Hall. 6 p.m.

Institution of Junior Engineers.—Visit to Millbank Station of London Hydraulic Power Company. 3 p.m. (Postponed from October 27.)

Sanitary Institute (Demonstrations for Sanitary Officers).—Inspection and demonstration at the Sewage and Destructor Works, Ealing. 9.15 p.m.

City of London College Science Society (White-street, Moorfields, E.C.).—Visit to the "Patent Stone, Disinfecting Apparatus, and Dust Destructor" of the Poplar Vestry. 3 p.m.

Dundee Institute of Architecture.—Opening lecture, "Some Byeways in Architecture," by Mr. G. S. Aitken, F.S.A. 7 p.m.

MONDAY, NOVEMBER 5.

Royal Institute of British Architects.—Opening address by the President, Mr. Wm. Emerson. 8 p.m.

Society of Engineers.—Mr. C. Rous-Marten on "English and French Compound Locomotives." 7.30 p.m.

Liverpool Architectural Society.—Mr. Halsey Ricardo on "The Revival of Gothic Architecture," illustrated by lime-light views. 6 p.m.

TUESDAY, NOVEMBER 6.

Institution of Civil Engineers.—Address by Mr. James Mansergh, President, and presentation of medals and prizes awarded by the Council. 8 p.m.

Sanitary Institute (Lectures for Sanitary Officers).—Professor Henry Robinson on "Water Supply, Sources of Supply and Distribution." 8 p.m.

WEDNESDAY, NOVEMBER 7.

Royal Archæological Institute.—(1) Mr. H. S. Cowper, F.S.A., on "Antiquities Collected in North Africa, Egypt, and Asia Minor, 1899-1900." (2) Mr. J. Lewis André, F.S.A., on "Miscellanea Heraldica." 4 p.m.

British Archæological Association.—Mr. R. Newstead, F.E.S., Curator of the Grosvenor Museum, Chester, on "The Roman Remains Discovered at Chester, 1896-1900." 8 p.m.

Builders' Foremen and Clerks of Works Institution.—Ordinary meeting of the members. 8 p.m.

Edinburgh Architectural Society.—Mr. W. J. Blain on "Some Scotch Houses."

THURSDAY, NOVEMBER 8.

Institution of Electrical Engineers.—The President, Professor John Perry, M.E., D.Sc., F.R.S., will deliver his Inaugural Address. 8 p.m.

Sanitary Institute (Lectures for Sanitary Officers).—Professor Henry Robinson on "Sewerage." 8 p.m.

FRIDAY, NOVEMBER 9.

Architectural Association.—Mr. L. L. Macassey on "The Legal Position of the Architect." 7.30 p.m.

Glasgow Technical College Architectural Craftsmen's Society.—"Specification for a Roof:" (1) "Timber," by Mr. D. Ritchie; (2) "Slating and Plumbing," by Mr. J. M. Bowman; (3) "Glazing," by Mr. J. Marshall. 8 p.m.

SATURDAY, NOVEMBER 10.

British Institute of Certified Carpenters (Carpenters Hall.—6 p.m.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

October 16.—By CHANCELLOR & SONS (at Richmond).

Richmond.—51, 52 and 53, George-st., c., r. 535*l.*	£15,150
59, George-st., f., r. 150*l.*	5,750
25 and 26, King-st., f., r. 140*l.*	3,350
King-st., St. Heliers, f., r. 55*l.*	900
14, The Green, c., r. 65*l.*	1,000
2, St. Helena-ter., f., r. 40*l.*	1,000

October 17.—By W. HIGGINS (at Rugby).

Braunston.—Northants, various enclosures, 51 a., f.	3,660
Freehold house, yard, and 2 a.	510
Two freehold houses and shop	300
Daventry.—Northants, freehold house and factory	320

By PERCY H. CLARKE.

Fulham.—40, Chesilton-rd., u.t. 80 yrs., g.r. 8*l.*, r. 40*l.*	365
123, Moore Park-rd., u.t. 66 yrs., g.r. 5*l.* 5s., r. 35*l.*	365

By HUMBERT & FLINT.

Rayne, &c., Essex.—Rayne Lodge Estate, 305 a. 0 r. 7 p., f.	3,400
Rayne Hall Estate, 290 a. 3 r. 29 p., f.	3,325
Two Enclosures of Land, 22 a. 0 r. 17 p., f.	470
King's Langley, Herts.—Langley Lodge and Ball's Pond Farm, 870 a. or. 23 p., f.	21,500
Harrow, Middlesex.—Sudbury-rd., Mountside Cottage, f.	535

By THURGOOD & MARTIN.

Minories.—No. 132, area 2,420 ft., Corporation Lease, g.r. 81*l.* 14s., fine 131*l.* 18s., r. 247*l.* 15s.	£4,199
Tooting.—Moring-rd., f.g.r. 24*l.*, reversion in 98 yrs.	1,050
Wanstead.—1 to 6, Slaters-alley, c.	260
4 and 5, Voluntary-pl., and a plot of land, c.	400
Holborn.—21 and 22, New-yard, f.	1,815
New-yard, freehold stabling premises, r. 32*l.*	760

October 18.—By G. FULLER & SON.

Chigwell, Essex.—Hainault-rd., Oakhurst and 2 acres, f., r. 50*l.*	1,035

By HAWES & CO.

New Malden, Surrey.—Mount Pleasant, The Cottage, f., r. 34*l.*	400

By MARK LIELL & SON.

Edmonton.—31 and 33, Windmill-rd., u.t. 75 yrs., g.r. 5*l.*	850

By WESTMORE & YOUNG.

Norwood.—Sunnybank, Marion Villa, u.t. 54 yrs., g.r. 3*l.* 15s., e.r. 40*l.*	370

By H. J. BLISS & SONS.

Bethnal Green.—24 and 26, Hollybush-gdns., u.t. 14 yrs., g.r. 6*l.*	310
Old Ford.—38, Eglinton-rd., f.	405
132, St. Stephen's-rd., f.	470
86a, Ford-st., f.	400
Penge.—38, Lennard-rd., u.t. 82 yrs., g.r. 5*l.*, r. 32*l.*	370
Hackney.—35, King Edward-rd., u.t. 25 yrs., g.r. 6*l.* 12s.	450

By PROTHEROE & MORRIS.

Sewardstone.—Sewardstone-rd., The Woodlands and 15½ a., f.	2,300
Wanstead.—Redbridge-lane, a block of building land, 3 a. 3 r. 10 p., f.	960

By JAMES T. PEAT (at Reigate).

Reigate, Surrey.—5, 6 and 7, North-rd., f.	490
Redhill, Surrey.—2 and 4, Elms-rd., f.	645

By WORSFOLD & HAYWARD (at Dover).

Dover, Kent.—20, London-rd., f., r. 150*l.*	2,370
8, 9, 33, 35, 37, and 38, Granville-st., f.	1,510

By EDWIN EVANS (at Clapham Junction).

Battersea.—20, and 24, Lavender-rd., u.t. 30 yrs., g.r. 6*l.* 10s.	405
Hammersmith.—11, Glenthorne-rd., u.t. 70 yrs., g.r. 7*l.*, e.r. 35*l.*	365
Balham.—18, 22, and 24, Nightingale-sq., u.t. 94 yrs., g.r. 21*l.*	1,135
Endlesham-rd., a block of building land, f.	645
Fulham.—111 to 129 (odd), Wardo-av., u.t. 89 yrs., g.r. 59*l.* 10s.	2,500
146 to 152 (even), Wardo-av., f.	1,595
42, Kembell-gardens, u.t. 93 yrs., g.r. 5*l.*	220
Balham.—30, Rossiter-rd., u.t. 73 yrs., g.r. 8*l.*, r. 34*l.*	360
27, Elmfield-rd., u.t. 90 yrs., g.r. 6*l.* 10s.	495
Wandsworth.—77, Allfarthing-lane, u.t. 95 yrs., g.r. 6*l.* 10s., r. 36*l.*	330
90, 92, and 94, Summers Town, f.	820
22, Bassingham-rd., u.t. 93 yrs., g.r. 6*l.* 6s.	225
46, Bassingham-rd., u.t. 89 yrs., g.r. 5*l.* 10s.	200
19 and 21, Swanage-rd., u.t. 93¾ yrs., g.r. 14*l.* 14s.	465
Norbiton.—1 to 6, Cobham Villas, u.t. 99 yrs., g.r. 42*l.*	1,650

October 19.—By GREEN & SON.

Crouch End.—26, Fairfield-rd., u.t. 87 yrs., g.r. 12*l.*, e.r. 70*l.*	620

By MILLAR, SON, & CO.

Burstow, &c., Surrey.—Burstow Lodge Estate, 265 a. 2 r. 26 p., f.	7,500

By TRISTE & CO.

Clapton.—Upper Clapton-rd., Hadham House and 1 a. 2 r. 30 p., u.t. 38 yrs., g.r. 25*l.*	1,625

By WINDRUM & CLEAVE.

Commercial-rd. East.—No. 801, f., e.r. 85*l.*	980
Poplar.—33, Susannah-st., with yard and stabling, f., r. 40*l.*	715
81, Culloden-st., and 81, Dee-st. u.t. 73 yrs., g.r. 3*l.* 15s.	435
Bow.—62 and 64, Quickett-st., u.t. 73 yrs., g.r. 6*l.*	340
East Ham.—144 and 146, Kensington-av., u.t. 98 yrs., g.r. 10*l.*	540
Rotherhithe.—Beatson-st., f.g.r. 35*l.*, reversion in 70 yrs.	720

October 22.—By EDWIN EVANS.

Stratford.—15, 17, and 19, Livingstone-rd., u.t. 66¾ yrs., g.r. 9*l.* 9s.	370

October 23.—By FORTESCUE & BRANSON.

Hammersmith.—22 and 24, Glenthorne-rd., u.t. 48 yrs., g.r. 6*l.*	755
Kensington.—80, Masbro'-rd., u.t. 57 yrs., g.r. 4*l.*	245
Shepherd's Bush.—68, Gayford-rd., u.t. 77 yrs., gr. 5*l.*	185
Bethnal Green.—156, 158 and 160, Cambridge-rd., u.t. 53 yrs., g.r. 12*l.*	760

By HAMPTON & SONS.

Warlingham, Surrey.—Kellora and 1¼ acres, f.	1,935

By W. R. NICHOLAS & CO.

Surbiton, Surrey.—Surbiton Hill, The Beacon, f.r. 165*l.*	2,400

By REYNOLDS & EASON.

Mile End.—Cornwall-pl., f.g.r. 20*l.*, reversions in 75 yrs.	465

By DAVID BURNETT & CO.

Chelsea.—2, 6, 7, 8, 13, 14, 16, 21, 24, 25, and 26, Bywater-st., u.t. 8 yrs., g.r. 32*l.* 8s. 8d.	860
33 to 51 (odd), Marlborough-rd., and 19, Norman-st., u.t. 8 yrs., g.r. 115*l.*	505
53 to 95 (odd), Marlborough-rd., u.t. 8 yrs., g.r. 240*l.* 13s.	1,470
1 to 10, Whitehead's-gr., and 113 to 129 (odd), Keppel-st., u.t. 8 yrs., g.r. 230*l.*	1,215
51 to 57, 91 to 111 (odd), Keppel-st., u.t. 8 yrs., g.r. 90*l.*	760
Hackney.—4, Patriot-sq., f.	560
63, St. Thomas-rd., u.t. 41 yrs., g.r. 5*l.*	415
Hoxton.—15, 22 to 30 (even), 34, 36, 39, 41, 43, 51 and 53, Crondall-st., u.t. 14 and 15 yrs. g.r. 245*l.* 14s.	1,185

By C. & H. WHITE.

Rotherhithe.—271, Rotherhithe New-rd., u.t. 31 yrs., g.r. 13*l.*, r. 45*l.*	625

October 24.—By C. RAWLEY CROSS & CO.

Putney.—15, Chelverton-rd., u.t. 88 yrs., g.r. 7*l.* 10s., r. 40*l.*	395
31, High-st., u.t. 81 yrs., g.r. 10*l.*, r. 200*l.*	3,145
Chiswick.—Barrowgate-rd., &c., two corner plots of land, f.	460

By Dolman & Pearce.

Haverstock Hill.—No. 114, u.t. 50 yrs., g.r. 5*l.*, e.r. 130*l.* £1,225

By Mark Hubbard.

Camden Town.—15, Camden-sq., u.t. 43½ yrs., g.r. 10*l.*, e.r. 80*l.*, ... 470

By J. H. Mellenfield.

Willesden.—27, 29 and 31, Mayo-rd., u.t. 81½ yrs. g.r. 15*l.* 525

Greenwich.—13, Bell-st., and 1 to 4, Clive-pl., f... 475

October 25.—By Browett & Taylor.

Holborn.—17, Red Lion-st., f., r. 60*l.* 1,060

Camberwell.—Albany-st., l.g.r. 55*l.* 5s., u.t. 17½ yrs., g.r. 25*l.* 5s. 240

Wanstead.—Chaucer-rd, f.g.r. 66*l.*, reversion in 85 yrs. 1,600

Wandsworth...14, Lavender Hill, f., r. 75*l.* 1,350

Pimlico.—28, Sussex-st., u.t. 33 yrs., g.r. 8*l.*, r. 40*l.* 385

By R. Burr & Sons.

Stoke Newington.—10 to 20 (even), Elton-st., u.t. 19 yrs., g.r. 18*l.* 600

By Walter Cobb.

Sydenham.—37, Trewsbury-rd., u.t. 70 yrs., g.r. 9*l.*, r. 60*l.* 730

Lawrie Park-rd., Rosendale, f., e.r. 65*l.* 930

By Farebrother, Ellis, & Co.

Canvey Island, Essex.—Knightswick Farm, 473 a. 3 r. 12 p., f. 3,500

Hammersmith.—River-ter., &c., f.g.r. 64*l.*, reversion in 33¾ yrs. 1,985

Twickenham.—Chestnut-rd., &c., f.g.r. 10*l.*, reversion in 48¾, 56, and 62 yrs. 235

Bethnal Green.—Harold-st., &c., f.g.r. 6*l.* 10s., reversion in 34 yrs. 195

Putney.—1, Henley Villas, u.t. 81 yrs., g.r. 7*l.*, r. 55*l.* 600

1, Ellerton Villas, u.t. 80 yrs., g.r. 7*l.*, e.r. 60*l.* 600

By Walter Hall.

Willesden Green.—21 to 35 (odd), Gowan-rd., u.t. 96½ yrs., g.r. 50*l.*, e.r. 287*l.* 2,375

Finchley.—5, Regent's Parade, f., r. 85*l.* 1,450

By C. C. & T. Moore.

St. George's East.—Back Church-lane, the Coach and Horses B.-H., f., g.r. 50*l.* 1,060

Mile End.—Harford-st., &c., l.g.r. 44*l.* 10s., u.t. 16½ yrs., g.r. 20*l.* 220

Jubilee-st., l.g.r. 48*l.*, u.t. 8½ yrs., g.r. 13*l.*, with reversion 250

40, Redman's-rd., area 2,800 ft., c., r. 50*l.* 860

Bromley-by-Bow.—18 to 28 (even), Eastward-st., u.t. 62½ yrs., g.r. 19*l.* 10s. 560

Forest Gate.—235, Romford-rd., f., e.r. 70*l.* 900

Southend, Essex.—Southchurch-rd., f.g.r. 20*l.*, reversion in 77½ yrs. 620

By Newson, Edwards, & Shephard.

Caledonian-rd.—34, 36, and 51, Outram-st., u.t. 57½ yrs., g.r. 18*l.*, r. 120*l.* 1,120

20, 32, and 34, Delhi-st., u.t. 57½ yrs., g.r. 18*l.*, R 106*l.* 16s. 1,110

Chalk Farm.—102, Belmont-st., u.t. 65½ yrs., g.r. 6*l.* 10s., r. 44*l.* 400

Finsbury Park.—5, Venetian-rd., u.t. 77 yrs., g.r. 6*l.* 10s., r. 36*l.* 385

Canonbury.—5, Canonbury Grove, u.t. 18 yrs., g. 7*l.*, r. 40*l.* 265

Clapton.—College-av., a Plot of Building Land f. 64, Kenninghall-rd., f., e.r. 65*l.* 450

Dalston.—104, 106, 114, and 116, Richmond-rd., u.t. 22½ yrs., g.r. 24*l.* 880

Willesden.—4, Church-rd., u.t. 68½ yrs., g.r. 8*l.*, r. 40*l.* 600

By Stimson & Sons.

Bow.—78 to 84 (even), Fairfoot-rd., u.t. 62 yrs., g.r. 15*l.*, r. 120*l.* 12s. 975

Peckham.—173 to 179 (odd), Commercial-rd., u.t. 59 yrs., g.r. 10*l.* 940

Camberwell.—72, Flaxman-rd., u.t. 64 yrs., g.r. 6*l.*, r. 28*l.* 275

Southwark.—236, 238, and 240, Tabard-rd. (site of), area 3,158 ft., f. 500

Hackney.—307, Victoria Park-rd., u.t. 44 yrs., g.r. nil, e.r. 45*l.* 480

Bayswater.—94, Talbot-rd., u.t. 58 yrs., g.r. 12*l.*, e.r. 70*l.* 445

Edmonton.—Balham-rd., Florence Villa, u.t. 98 yrs., g.r. 4*l.* 10s. 150

Bermondsey.—34, Ernest-st., u.t. 16½ yrs., g.r. 3*l.* 5s. 120

New Cross.—167, Shardeloes-rd., u.t. 64 yrs., g.r. 5*l.*, e.r. 35*l.* 350

Brixton.—41, Treherne-rd., u.t. 62½ yrs., g.r. 5*l.*, r. 32*l.* 350

By Worsfold & Hayward.

Stockwell.—27 and 27A, Stockwell Green, f. e.r. 40*l.* 700

Canning Town.—4 to 16 (even), Constance-st., u.t. 79 yrs., g.r. 21*l.* 645

1 to 9 (odd) and 10, Victoria-pl., u.t. 79 yrs., g.r. 18*l.* 460

October 26.—By Herring, Son, & Daw.

Streatham.—135, Hopton-rd., u.t. 80 yrs., g.r. 12*l.* 12s. 500

By Wheatley, Kirk, Price, & Co.

Romford, Essex.—Hornchurch-rd., the Ormonde Cycle Works, area 4 a., u.t. 88 yrs., g.r. 25*l.* 2,550

By J. C. Platt.

Battersea.—37 and 39, Falcon-rd., u.t. 77 yrs., g.r. 14*l.* 10s., r. 115*l.* 1,520

Caledonian-rd.—No. 510, u.t. 41¾ yrs., g.r. 10*l.* 10s. e.r. 60*l.* 485

Holloway.—1 and 2, Hillmarten-rd., u.t. 41½ yrs., g.r. 16*l.*, r. 110*l.* 940

Stockwell.—13, St. Michael's-rd., u.t. 65 yrs., g.r. 7*l.*, r. 45*l.* 460

Camden Town.—3, Chalk Farm-rd., u.t. 30 yrs., g.r. 7*l.*, r. 60*l.* 440

Brentford, Middlesex.—218, High-st., f., r. 35*l.* .. 660

By E. & S. Smith.

Clerkenwell.—5, Amwell-st., u.t. 11 yrs., g.r. 7*l.* 7s., r. 65*l.* 350

Holloway.—58, Huddleston-rd., u.t. 66½ yrs., g.r. 7*l.*, e.r. 50*l.* 570

Highgate.—3, Onslow-gardens, u.t. 88 yrs., g.r. 9*l.* 9s., e.r. 60*l.* 640

Muswell Hill.—Muswell-avenue, Claremont, u.t. 96 yrs., g.r. 6*l.*, r. 38*l.* 440

By A. J. Sheffield.

Acton.—Stirling-rd., &c., f.g.r. 169*l.*, reversion in 99 yrs. 4,955

Colville-rd., f.g.r. 254*l.*, reversion in 99 yrs. 6,418

Horton.—8 and 47, Bookham-st., u.t. 34 yrs., g.r. 10*l.* 12s. 6d., r. 80*l.* £735

Poplar.—22, Willis-st., f. 200

17, 19, and 21, Annabel-st., u.t. 28 yrs., g.r. 7*l.* 10s. 225

***Contractions used in these lists.*—F.g.r.** for **freehold ground-rent**; **l.g.r.** for **leasehold ground-rent**; **i.g.r.** for **improved ground-rent**; **g.r.** for **ground-rent**; **r.** for **rent**; **f.** for **freehold**; **c.** for **copyhold**; **l.** for **leasehold**; **e.r.** for **estimated rental**; **u.t.** for **unexpired term**; **p.a.** for **per annum**; **yrs.** for **years**; **st.** for **street**; **rd.** for **road**; **sq.** for **square**; **pl.** for **place**; **ter.** for **terrace**; **cres.** for **crescent**; **yd.** for **yard**.

PRICES CURRENT OF MATERIALS.

*** Our aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information.

BRICKS, &c.

	£ s. d.		
Hard Stocks	1 16 0	per 1,000	alongside, in river.
Rough Stocks and Grizzles	1 12 0	,,	,, ,,
Smooth Bright Facing Stocks..	2 18 0	,,	,, ,,
Shippers	2 2 0	,,	,, ,,
Flettons.....	1 10 0	,,	at railway depôt.
Red Wire Cuts ..	1 15 0	,,	,, ,,
Best Fareham Red	3 11 6	,,	,, ,,
Best Red pressed Ruabon Facing.	5 5 0	,,	,, ,,
Best Blue Pressed Staffordshire ..	4 7 0	,,	,, ,,
Do., Bullnose	4 12 0	,,	,, ,,
Best Stourbridge Fire Bricks	4 4 6	,,	,, ,,

Glazed Bricks.

Best White and Ivory Glazed Stretchers.....	13 0 0	,,	,, ,,
Headers	12 0 0	,,	,, ,,
Quoins, Bullnose, and Flats	17 0 0	,,	,, ,,
Double Stretchers	19 0 0	,,	,, ,,
Double Headers..	16 0 0	,,	,, ,,
One Side and two Ends	19 0 0	,,	,, ,,
Two Sides and one End	20 0 0	,,	,, ,,
Splays, Chamfered, Squints	20 0 0	,,	,, ,,
Best Dipped Salt Glazed Stretchers and Headers ..	12 0 0	,,	,, ,,
Quoins, Bullnose, and Flats ..	14 0 0	,,	,, ,,
Double Stretchers	15 0 0	,,	,, ,,
Double Headers..	14 0 0	,,	,, ,,
One Side and two Ends	15 0 0	,,	,, ,,
Two Sides and one End	15 0 0	,,	,, ,,
Splays, Chamfered, Squints	14 0 0	,,	,, ,,
Seconds Quality White and Dipped Salt Glazed	2 0 0	,,	less than best.

	s. d.	
Thames and Pit Sand	8 0	per yard, delivered.
Thames Ballast	6 9	,, ,,
Best Portland Cement	38 0	per ton ,,
Best Ground Blue Lias Lime..	24 6	,, ,,

Note.—The cement and lime is exclusive of the ordinary charge for sacks.

Grey Stone Lime	12s. 6d. per yard, delivered.
Stourbridge Fire-clay in sacks, 32s. 6d. per ton at rly. dpt.	

STONE.

	s. d.	
Ancaster in blocks	2 0	per ft. cube, deld. rly. depôt
Bath ,, ...	1 7	,, ,,
Farleigh Down Bath ..	1 8	,, ,,
Beer in blocks	1 6½	,, ,,
Grinshill ,, ...	1 10	,, ,,
Brown Portland in blocks	2 2	,, ,,
Darley Dale ,,	2 1½	,, ,,
Red Corsehill ,,	2 5	,, ,,
Red Mansfield ,,	2 4½	,, ,,
Hard York ,,	2 10	,, ,,
Hard York 6 in. sawn both sides landings, to sizes (under 40 ft. sup.)	2 7	per ft. superficial at rly. depôt.
,, ,, 6 in. Rubbed Ditto..	2 10½	,, ,,
,, ,, 3 in. sawn both sides slabs (random sizes)	1 3	,, ,,
,, ,, 3 in. self-faced Ditto	0 9	,, ,,

SLATES.

in.	in.	£ s. d.	
20×10	best blue Bangor..	11 5 0	per 1000 of 1200 at rly. dep
,,	best seconds ,,	10 15 0	,, ,,
16× 8	best ,,	6 2 6	,, ,,
20×10	best blue Portmadoc ..	10 18 0	,, ,,
16× 8	best blue Portmadoc	6 0 0	,, ,,
20×10	best Eureka unfading green.....	11 2 6	,, ,,
16× 8	,, ,,	6 15 0	,, ,,
20×10	Permanent green	10 0 0	,, ,,
16× 8	,, ,,	5 12 6	,, ,,

TILES.

	s. d.	
Best plain red roofing tiles..	41 6	per 1,000 at rly. depôt
Hip and valley tiles....	3 7	per doz. ,, ,,
Best Broseley tiles	43 6	per 1,000 ,, ,,
Hip and valley tiles....	4 0	per doz. ,, ,,
Best Ruabon Red, brown or brindled Do. (Edwards)	57 6	per 1,000 ,, ,,
Do. ornamental Do.	60 0	,, ,, ,,
Hip tiles.....	4 0	per doz. ,, ,,
Valley tiles.....	3 9	,, ,, ,,
Best Red or Mottled Staffordshire Do. (Peakes) .	50 9	per 1,000 ,, ,,
Hip tiles	4 1	per doz. ,, ,,
Valley tiles.....	3 8	,, ,, ,,

PRICES CURRENT (*Continued*).

WOOD.

Building Wood.—Yellow.

	At per standard. £ s. d.	£ s. d.
Deals: best 3 in. by 11 in. and 4 in. by 9 in. and 11 in.	16 10 0	18 0 0
Deals: best 3 by 9	14 10 0	15 10 0
Battens: best 2½ in. by 7 in. and 8 in. and 3 in. by 7 in. and 8 in.....	12 10 0	13 10 0
Battens: best 2½ by 6 and 3 by 6 ..	0 10 0	less than 7 in. and 8 in.
Deals: seconds	1 0 0	less than best
Battens: seconds.....	0 10 0	,, ,, ,,

	At per load of 50 ft.	
Fir timber: Best middling Danzig or Memel (average specification)	4 10 0	5 0 0
Seconds	4 5 0	4 10 0
Small timber (8 in. to 10 in.)	3 12 6	3 15 0
Swedish balks.....	2 15 0	3 0 0
Pitch pine timber (35 ft. average)..	4 0 0	4 10 0

Joiners' Wood.

	At per standard.	
White Sea: First yellow deals, 3 in. by 11 in.....	27 10 0	28 10 0
3 in. by 9 in.	24 0 0	25 0 0
Battens, 2½ in. and 3 in. by 7 in.	20 0 0	21 0 0
Second yellow deals, 3 in. by 11 in.	22 10 0	24 0 0
,, ,, 3 in. by 9 in.	20 0 0	21 0 0
Battens, 2½ in. and 3 in. by 7 in.	16 10 0	18 0 0
Third yellow deals, 3 in. by 11 in. and 9 in.	16 10 0	18 0 0
Battens, 2½ in. and 3 in. by 7 in.	13 10 0	14 10 0
Petersburg: first yellow deals, 3 in. by 11 in.	25 0 0	26 0 0
Do. 3 in. by 9 in.	22 0 0	23 0 0
Battens.....	16 10 0	17 10 0
Second yellow deals, 3 in. by 11 in.....	18 10 0	20 0 0
Do. 3 in. by 9 in.	17 0 0	18 0 0
Battens.....	14 0 0	14 10 0
Third yellow deals, 3 in. by 11 in.....	15 0 0	16 10 0
Do. 3 in. by 9 in.	14 0 0	14 10 0
Battens.....	12 10 0	13 10 0
White Sea and Petersburg:—		
First white deals, 3 in. by 11 in..	15 10 0	16 10 0
,, ,, ,, 3 in. by 9 in. ..	14 0 0	15 0 0
Battens.....	12 10 0	13 10 0
Second white deals 3 in. by 11 in.	14 0 0	15 0 0
,, ,, ,, 3 in. by 9 in.	13 0 0	14 0 0
,, ,, battens	11 0 0	12 0 0
Pitch pine: deals	16 0 0	18 0 0
Under 2 in. thick extra	0 10 0	1 0 0
Yellow Pine—		
First, regular sizes	30 0 0	33 0 0
Broads (12 in. and up)	2 0 0	more.
Oddments	22 0 0	24 0 0
Seconds, regular sizes	24 10 0	26 10 0
Yellow Pine Oddments	20 0 0	22 0 0
Kauri Pine—		
Planks, per ft. cube	0 3 6	0 4 6
Danzig and Stettin Oak Logs—		
Large, per ft. cube	0 2 6	0 2 8
Small ,, ,, ...	0 2 4	0 2 7
Wainscot Oak Logs, per ft. cube ..	0 5 0	0 5 6
Dry Wainscot Oak, per ft. sup. as inch	0 0 8	0 0 9
¾ in. do. do.	0 0 7	- - -
Dry Mahogany—		
Honduras, Tabasco, per ft. sup. as inch	0 0 9	0 0 11
Selected, Figury, per ft. sup. as inch	0 1 6	0 2 0
Dry Walnut, American, per ft. sup. as inch.....	0 0 10	0 1 0
Teak, per load	16 0 0	20 0 0
American Whitewood Planks—		
Per ft. cube.....	0 2 3	0 3 0

JOISTS, GIRDERS, &c.

	In London, or delivered to Railway Vans, per ton. £ s. d.	£ s. d.
Rolled Steel Joists, ordinary sections	9 2 6	10 2 6
Compound Girders ,, ,,	12 5 0	13 10 0
Angles, Tees and Channels, ordinary sections	12 10 0	14 10 0
Flitch Plates	11 7 6	12 0 0
Cast Iron Columns and Stanchions, including ordinary patterns	8 15 0	10 10 0

METALS.

	Per ton, in London. £ s. d.	£ s. d.
Iron.—		
Common Bars.....	10 0 0	10 10 0
Staffordshire Crown Bars, good merchant quality	10 15 0	11 5 0
Staffordshire "Marked Bars" ..	13 5 0	- - -
Hoop Iron, basis price.....	11 0 0	11 10 0
,, ,, galvanised	17 0 0	- - -
(* And upwards, according to size and gauge.)		
Sheet Iron, Black.—		
Ordinary sizes to 20 g.	11 5 0	- - -
,, ,, to 24 g.	2 10 0	- - -
,, ,, to 26 g.	1, 10 0	- - -
Sheet Iron, Galvanised, flat, ordinary quality.—		
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 20 g.....	14 15 0	- - -
,, ,, 22 g. and 24 g.	15 5 0	- - -
,, ,, 26 g.....	16 15 0	- - -
Sheet Iron, galvanised, flat, best quality.—		
Ordinary sizes to 20 g.	18 0 0	- - -
,, ,, 22 g. and 24 g.	18 10 0	- - -
,, ,, 26 g.	20 0 0	- - -
Galvanised Corrugated Sheets.—		
Ordinary sizes, 6 ft. to 8 ft. 20 g.	13 15 0	14 10 0
,, ,, 22 g. and 24 g.	14 10 0	15 10 0
Cut nails, 3 in. to 6 in.....	11 10 0	- - -
(Under 3 in. usual trade extras.)		
Lead—Sheet, English, 3 lbs. & up.	20 7 6	- - -
Pipe in coils	20 17 6	- - -
Soil Pipe..	23 17 6	- - -
Zinc—Sheet—		
Vieille Montagne ..... ton	28 0 0	- - -
Silesian.....	27 10 0	- - -
Copper—		
Strong Sheet..... per lb.	0 1 1	- - -
Thin ..... ,,	0 1 3	- - -
Copper nails ..... ,,	0 1 3	- - -

[See also next page.

COMPETITIONS, CONTRACTS AND PUBLIC APPOINTMENTS.

(For some Contracts, &c., still open, but not included in this List, see previous issues.)

COMPETITIONS.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered
Bridge	Newcastle-upon-Tyne Corporation	Not stated	Nov. 15
Harbour Offices	Swansea Harbour Trustees	100*l.* and 50*l.*	Nov. 30
Parade Extension	Bridlington Corporation	35 guineas and 15 guineas	Dec. 1
Municipal Buildings	South Shields Town Council	200*l.*, 100*l.* and 50*l.*	Dec. 31

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c., Supplied by	Tenders to be delivered
*Stone Paving	Tottenham U.D.C.	P. E. Murphy, Engineer, 712, High-road, Tottenham	Nov. 6
Additions to Schools, Marmion-street, &c.	Tamworth School Board	J. W. Godderidge, Architect, 4, Bolebridge-street, Tamworth	do.
Shop and Three Houses, Bishop-street, Londonderry	Mr. S. Bell	R. E. Buchanan, Civil Engineer, Castle-street, Londonderry	do.
Double Cottage, Crofts, Elgin, N.B.		A. & W. Reid & Wittett, Architects, Elgin	do.
Building Work at Workhouse	Belfast Guardians	Young & Mackenzie, Archts., Scottish Provident Bldgs., Belfast	do.
Stables, &c., Underwood	Paisley (N.B.) Commissioners	J. Lee, Civil Engineer, Municipal Buildings, Paisley	do.
Chimney at Electricity Works, Valley-road	Bradford Corporation	Mawson & Hudson, Architects, Bradford	Nov. 7
Reservoir, &c., Peden Burn, Crawford	Wishaw (N.B.) Commissioners	W. R. Copland, Civil Engineer, 146, West Regent-street, Glasgow	do.
House, &c., Menston, near Otley		Milnes & France, Architects, 99, Swan-arcade, Bradford	do.
School and House, near Chipping Norton	Over Norton School Board	A. E. Mace, School Offices, Chipping Norton	do.
Hotel, Annfield Plain, Durham	Mr. T. Pearson	G. T. Wilson, Architect, 121, Durham-road, Blackhill	do.
Additions to Winton's Assembly Rooms, Gt. Yarmouth	Messrs. J. & W. F. Goode	C. G. Baker, Architect, Town Hall Chambers, Great Yarmouth	do.
Two Houses, Halifax		F. F. Beaumont, Architect, Southgate Chambers, Halifax	do.
Covered Ways at Infirmary, Milton	Portsmouth Guardians	G. E. Smith, Architect, Victoria-road North, Southsea	do.
Building Work, Thames-street, Weybridge		C. Welch, Architect, London-street, Chertsey	do.
Well Sinking, Sheephouse	Drogheda R.D.C.	P. Dowdall, Workhouse, Drogheda	Nov. 8
Lodge, Gillas, Cautley, Sedbergh	Mr. C. W. Baxter	S. Shaw, Architect, Kendal	do.
Enlargement of Post Office, Watford	Office of Works	Secretary, Storey's Gate, S.W.	do.
Foundation Preparations, Manston Hospital	Leeds Corporation	E. T. Hall, Architect, 57, Moorgate-street, E.C.	do.
School Buildings	Calstock (Cornwall) School Board	H. J. Snell, Architect, The Crescent, Plymouth	Nov. 9
Police Houses, Dalton-in-Furness	Standing Joint Committee	H. Littler, Architect, County Offices, Preston	do.
Additions to Police Station, Hindley, near Wigan	do.	do.	do.
Water Works, Habbershaw, Inverurie, N.B.		Jenkins & Marr, Civil Engineer, 16, Bridge-street, Aberdeen	do.
House, Callifer Moss Farm, Forres, N.B.	Chorlton & M'chester W'houseCom.	J. Forrest, Architect, High-street, Forres	do.
Test House, &c., Tame-street, Ancoats	Mr. R. H. A. Woodman	A. J. Murgatroyd, Architect, 23, Strutt-street, Manchester	do.
Additions, &c., to No. 9, The Beacon, Exmouth	Borough Market Trustees	E. E. Ellis, Architect, Exmouth	do.
*Repairs and Painting to the Market Buildings	Mr. J. M'Nally	W. Woodroffe, Archt., Town Hall Chmbrs., High-st., Southwark	do.
Alterations to Hotel, Antrim	Burnley R.D.C.	J. M. M'Nally, Antrim	Nov. 10
Street Works, &c.		S. Edmondson, Civil Engineer, 18, Nicholas-street, Burnley	do.
House, The Butts, Warkworth	Newton Abbot (Devon) Guardians	M. T. Wilson, Architect, Alnwick	do.
Additions to Workhouse		S. Segar, Architect, Union-street, Newton Abbot	do.
Wealeyan Church, Hensingham		A. Huddart, Architect, 22, Lowther-street, Whitehaven	do.
Congregational Church, &c., Woodhouse-lane, Leeds		G. F. Danby, Architect, 10, Park-row, Leeds	Nov. 12
Schools, Mellis	Quarry Bank, U.D.C.	Rev. T. H. Peat, The Rectory, Mellis	do.
Granite (400 tons)	Oldham School Board	A. Homfray, Cradley Heath	do.
School Superstructure, Waterloo	Darlaston, U.D.C.	R. Holt, Architect, 11, Dale-street, Liverpool	do.
Widening James Bridge	Willesden District Council	J. C. Joynson, Surveyor, Public Offices, Darlaston	do.
*Slop and Material Carts, Water Vans, &c	Walthamstow School Board	Engineer, Public Offices, Dyne-road, Kilburn, N.W	Nov. 13
*Iron Fencing	Messrs. Simpson & Co.	School Board Office, High-street, Walthamstow	do.
Malting, Belford, Northumberland	Bishop of Down and Connor	Brewill & Bailey, Architects, Angel-row, Nottingham	Nov. 14
Additions, &c., to Orlands, near Kilroot	Wolverhampton Corporation	W. J. Fennell, Architect, Scottish Provident Buildings, Belfast	Nov. 17
Tram Car Depôt, Cleveland-road	Spennymoor U.D.C.	J. W. Bradley, Civil Edgineer, Town Hall	Nov. 19
*Isolation Hospital	Woolwich Guardians	G. W. Rogers, Surveyor, Spennymoor	do.
*Two Cottage Homes, &c.	Darlington Corporation	Church, Quick & Whincop, Architects, William-st., Woolwich	Nov. 21
*Engine House and Boiler House, &c.	do.	Borough Surveyor, Town Hall, Darlington	Nov. 22
*Pumping Engine, &c.	Salford Tramways Committee	do.	do.
*Car Depôt and Workshops	Watford School Board	Tramway's Engineer, Town Hall, Salford	Nov. 30
*Alterations and Additions to Watford Field School		C. P. Ayres, Architect, Burvale, Watford	No date
House, George-street, Lynn, Norfolk	Plympton, Devon Gas Co., Ltd.	E. E. Colman, Architect, 24, King-street, Lynn	do.
Pipes, &c., Colebrook		Secretary, Gas Works, Underwood, Plympton	do.
Two Cottages, Tennyson-avenue, King's Lynn		L. F. Eagleton, Architect, Bank Chambers, King's Lynn	do.
Presbyterian Church, Cardiff		Habershon & Co., Architects, 14, Pearl-street, Cardiff	do.
Shop, Leatbeg, Mulroy, co. Donegal		J. Wilkinson, Milroy, co. Donegal	do.
Schoolroom, Shirebrook, near Mansfield	Methodist Free Church	J. Perkin, Architect, Shirebrook	do.
Hotel, Chichester-road, South Shields	The Executors of John Turnbull	M. Hall & Son, Architects, King-street, South Shields	do.
Alterations to Premises, 51, Prospect-place, Swindon.		W. Drew & Sons, Architects, Victoria-road, Swindon	do.

PUBLIC APPOINTMENTS

Nature of Appointment.	By whom Advertised.	Salary	Application to be in
*Clerk of Works	Minehead U.D.C.		Nov. 6

Those marked with an asterisk (*) are advertised in this Number. Competitions, p. —. Contracts, pp. iv. vi. viii. x. & xix. Public Appointments, pp. xvi. & xix.

PRICES CURRENT (*Continued*).

	Per ton, in London. £ s. d.	£ s. d.
BRASS—		
Strong Sheet ,,	0 0 11	- - -
Thin ,,	0 1 1	- - -
TIN—English Ingots ,,	0 1 6	- - -
SOLDER—Plumbers' ,,	0 0 8	- - -
Tinmen's ,,	0 0 10	- - -
Blowpipe ,,	0 1 0	- - -

ENGLISH SHEET GLASS IN CRATES.

15 oz. thirds	2½d. per ft. delivered.
,, fourths	2¾d. ,, ,,
21 oz. thirds	3¼d. ,, ,,
,, ,, fourths	3d. ,, ,,
26 oz. thirds	4¼d. ,, ,,
,, ,, fourths	4d. ,, ,,
32 oz. thirds	5¼d. ,, ,,
,, ,, fourths	5d. ,, ,,

PRICES CURRENT (*Continued*).

Fluted sheet, 15 oz.	3½d. per ft. delivered.
,, ,, 21 ,,	4¼d. ,, ,,
½ Hartley's Rolled Plate	3d. ,, ,,
⅜ ,, ,, ,,	3½d. ,, ,,
½ ,, ,, ,,	4d. ,, ,,

OILS, &c.

	£ s. d.
Raw Linseed Oil in pipes per gallon	0 3 1
,, ,, ,, in barrels ,,	0 3 3
,, ,, ,, in drums ,,	0 3 4
Boiled ,, ,, in pipes ,,	0 3 4
,, ,, ,, in barrels ,,	0 3 5
,, ,, ,, in drums ,,	0 3 7
Turpentine, in barrels ,,	0 2 7
,, in drums ,,	0 2 9
Genuine Ground English White Lead ...per ton	27 10 0
Red Lead, Dry ,,	25 0 0
Best Linseed Oil Putty ...per cwt.	0 2 6
Stockholm Tar per barrel	1 5 0

PRICES CURRENT (*Continued*).

VARNISHES, &c.	per gallon. £ s. d
Fine Elastic Copal Varnish for outside work	0 16 6
Best Elastic Copal Varnish for outside work	1 0 0
Best Elastic Carriage Varnish for outside work	0 16 6
Best Hard Oak Varnish for inside work	0 10 6
Best Extra Hard Church Oak Varnish for inside work	0 10 6
Fine Hard Copal Varnish for inside work	0 16 0
Best Hard Copal Varnish for inside work	1 0 0
Best Hard Carriage Varnish for inside work	0 16 0
Extra Pale Paper Varnish	0 12 0
Best Japan Gold Size	0 10 0
Best Black Japan	0 16 0
Oak and Mahogany Stain	0 9 0
Brunswick Black	0 9 0
Berlin Black	0 15 0
Knotting	0 10 0
Best French and Brush Polish	0 10 0

TO CORRESPONDENTS.

G. B. R. (Below our limit.)

NOTE.—The responsibility of signed articles, letters, and papers read at meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news items) which have been duplicated for other journals are NOT DESIRED.

We are compelled to decline pointing out books and giving addresses.

Any commission to a contributor to write an article is given subject to the approval of the article, when written, by the Editor, who retains the right to reject it if unsatisfactory. The receipt by the author of a proof of an article in type does not necessarily imply its acceptance.

All communications regarding literary and artistic matters should be addressed to THE EDITOR; those relating to advertisements and other exclusively business matters should be addressed to THE PUBLISHER, and *not* to the Editor.

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than 10 a.m. on Thursdays.* N.B.—We cannot publish tenders unless authenticated either by the architect or the building-owner; and we cannot publish announcements of tenders accepted unless the amount of the tender is given, nor any list in which the lowest tender is under £100, unless in some exceptional cases and for special reasons.]

*** Denotes *accepted.* † Denotes *provisionally accepted.***

ASTON MANOR.—For alterations to fire station, &c., Chester-street, for the Urban District Council. Mr. G. H. Jack, Surveyor, Council House, Albert-road, Aston Manor :—

Hughes & Stirling	£1,505	Gowing & Ingram	£1,225
W. Hopkins	1,420	C. Hughes	1,207
Whitehouse & Sons	1,395	T. Elvins	1,185
F. Nicols	1,370	Lee & Sons, Avenue-road, Aston, Birmingham	1,179
G. Trentham	1,320		
W. Bishop	1,275		

BECKENHAM.—For making-up Blandford-road and others (four contracts); also Bromley-gardens, for the Urban District Council. Mr. J. A. Angell, Surveyor, Council Offices, Beckenham :—

	S. Saunders.	G. Wilson.	Mowlem & Co.	C. Pearce.
	£	£	£	£
Blandford-road	7,007	4,093	3,432	3,364
Oakwood-aven.	4,161	1,725	1,651	1,542
Gowland-place	1,394	480	456	418
Yewtree-road	1,251	437	405	374
Total	13,813	6,735	5,944	5,698

Bromley-gardens.

S Saunders	£4,106
G. Wilson	1,676
J. Mowlem & Co.	1,532
C. Pearce	1,450

BRADFORD.—For the erection of five shops, &c., Victoria-square, for Messrs. Wm. Whitaker & Co., Limited, Brewers, Bradford. Messrs. T. C. Hope & Son, architects, 23, Bank-street, Bradford. Quantities by the architects :—

Masonry.—Balmforth & Ingham, Queensbury, near Bradford*
Joinery.—Dyer & Son, Bradford*
Ironfounding.—Rhodes & Co., Bradford*
Plastering.—Dixon & Co., Bradford*
Plumbing.—S. Rushworth, Shipley*
Painting.—G. Atkins, Bradford*
Skylights.—Hellwell & Co., Brighouse*
Slating.—Nelson & Son, Bradford*

Contracts signed for £5,200

[Amount estimated by the architects, £5,000.]

BRIGHTON.—For alterations and new shop front to 17 and 17A, North-street, Brighton, for Mr. A. Cavendish. Mr. W. H. Nash, architect, 17, North-street :—

W. & T. Garrett	£725	Saunders & Sons*	£651
J. Barnes	679		

CHELMSFORD.—For the erection of new County Constabulary headquarters, for the Essex County Council, including County offices and recruits' quarters, residences for the Chief and Deputy-Chief Constables, chief and junior clerks, drill instructor, two blocks of stables and grooms' quarters. Messrs. Clare & Ross, architects, Chelmsford, and 1, West-street, Finsbury-circus, E.C. Quantities by Mr. J. S. Parmenter, Chelmsford and Ipswich :—

Holliday & Greenwood	£21,806	Parmenter	£19,322
Johnson	20,884	West	19,193
Coulson & Lofts	20,856	Grimwood	19,744
Everett	20,400	Thoday	18,674
Brown	19,998	Smith, Witham*	17,445

[The above prices include yard boundary walls and fences, underground mains from Springfield-road, Surveyors' charges, &c.]

DOVER.—For the erection of a pavilion, &c., on the Promenade Pier. Mr. M. Noel Ridley, 11, Dartmouth-street, and Mr. Robert J. Beale, Broadway House, Westminster, joint engineers :—

Penney & Co.	£7,280 17 5	Fasey & Son, Leytonstone*	£6,280 0 0
W. J. Adcock	7,000 0 0		
Alfred Thorne	6,837 0 0		

GRAVESEND.—For the supply of Guernsey granite (1,000 tons), for the Town Council. Mr. F. T. Grant, Borough Surveyor, Town Hall, Gravesend :—

	s. d.	
Griffiths & Co.	13 11	per ton.
Mowlem & Co.	13 10	,,
A. & F. Manuelle	13 3	,,
Fry Bros.	12 2	,,
J. Hall, Poplar*	11 11	,,

LONDON.—For the execution of private sewerage works for the Fulham Vestry. Mr. Chas. Botterill, C.E., Town Hall, Walham Green, S.W. :—

	26, Averill-street.	54, Burnthwaite-road.	59, Burnthwaite-road.	15, Hartopp-avenue.	18, Hartopp-avenue.	20, Hartopp-avenue.	19, Crefeld-road.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
C. Trelaine	33 0 0	29 0 0	27 0 0	28 0 0	27 0 0	28 0 0	28 0 0
J. Meredith	20 0 0	20 0 0	19 0 0	19 0 0	19 0 0	19 0 0	23 10 0
W. R. Marks	21 15 0	19 10 0	16 18 6	18 10 0	16 7 6	19 15 0	19 15 0
Smith & Son	23 13 0	19 7 6	17 17 0	19 5 0	18 10 6	19 5 6	17 19 0
J. Shirley	17 10 0	18 0 0	18 0 0	17 10 0	17 10 0	17 10 0	19 0 0
G. Roberts	—	18 15 0	18 15 0	17 12 0	17 12 0	17 12 0	—
Surveyor's estimate	25 5 0	23 0 0	17 0 0	20 0 0	18 0 0	22 0 0	23 10 0

GRAYS (Essex).—For the erection of twenty-five cottages, Parker-road, for the Urban District Council. Mr. A. C. James, Surveyor, District Council Offices, Grays :—

P. Brown	£6,325	H. J. Carter, Grays*	£5,250
Wood & Co.	5,303		

GUILDFORD.—For the supply of 1,000 tons of granite road metal, for the Town Council. Mr. C. G. Mason, C.E. Tuns Gate, Guildford :—

	Per ton. s. d.		Per ton. s. d.
Fry Bros*, Lion Wharf, Greenwich	15 4	A. & F. Manuelle	15 9
L. Somerfield	15 6	G. Lemaitre	16 9
Griffiths & Co., Ltd.	16 4	J. Mowlem	16 4
		E. & H. Beevers	15 7

HANWELL (Middlesex).—For the supply of granite for the year ending March 31, 1901, for the Urban District Council. Mr. Sidney W. Barnes, Surveyor to the Council :—

	Hand Broken. s. d.	Machine Broken. s. d.
Henry L. Cooper	0 0	19 7
G. Le Maitre	18 9	0 0
Griffiths & Co., Limited	18 4	0 0
L. Sommerfeld	0 0	18 0
Mowlem & Co.	17 8	17 2
Fry Bros.	17 6	0 0
John Hall, Poplar, E.*	16 9	0 6

HAVERHILL (Suffolk).—For the erection of a laundry, &c., at the workhouse, Kedington, for the Guardians. Mr. W. H. Carr, architect, Clare, Suffolk. Quantities by architect :—

S. Wiles	£285	T. Humphrey, Steeple Bumpstead, near Haverhill*	£149
W. Deeks	230		

LONDON.—For the execution of road works, Pentonville-road, for the Clerkenwell Vestry. Mr. P. G. Killick, Surveyor. Quantities by Surveyor :—

	Paving. per yard.	Concrete. per yard.
Griffiths & Co., Ltd.	£0 19 0	£1 3 10
Mowlem & Co., London*	0 18 5	1 3 0

LONDON.—Additions to business premises, Offley-road, Kennington, for Messrs. Sharwood & Co., Limited. Mr. H. Phelps Drew, architect, 33, King-street, Covent Garden. Quantities by Mr. J. Rookwood, 25, Bedford-row :—

Norton	£1,509	Edwards & Medway	£1,297
Snewin Bros.	1,397	Wilkinson Bros.*	1,250

LONDON.—For erecting dwelling-house at Hendon, for Mr. C. C. Abbott. Mr. Frederick Geo. Willard, architect, &c., 1, Nunhead-lane, Peckham, S.E. :—

H. Boulter, 21, Sancroft-street, Kennington-cross, S.E.* £440

LYMINGTON (Hants).—For the execution of sewerage-works, engine-house, &c., for the Town Council. Mr I. Pym-Jones, engineer, 14, High-street, Lymington :—

For Oil Engines and Centrifugal Pumps.

Bird & Co.	£563 18 6	Crossley Bros.	£557 15 0
Hunt & Rose	567 10 0	Hornsby & Sons, Grantham*	554 0 10

For Engine-house, Sewers, &c.

Coston & Co.	£1,275
Plascott & Son, Southampton*	1,107

MELTON (Suffolk).—For extensions and alterations to the Suffolk County Asylum, Melton. Mr. A. J. Wood, architect, 22, Surrey-street, Victoria-embankment, W.C. Quantities by Messrs. Widnell & Trollope, 20, Tothill-street, Westminster, S.W. :—

Higgs & Hill, Ltd.	£82,500	Johnson & Co., Ltd.	£75,600
Foster & Dicksee	79,560	Lawrance & Sons	73,000
Rudd & Son	79,444	C. Wall	71,700
Patman & Fotheringham, Ltd.	79,000	Pattinson & Sons	67,500
H. Lovatt	77,575	Kerridge & Shaw*	65,917

Electric Plant.

Royce & Co., Ltd.	£2,691 12 0	Crompton & Co., Ltd.	£2,284 0 0
Holmes & Co.	2,493 0 0	Lawrence, Scott, & Co., Ltd.	2,268 16 4
Siemens Bros. & Co., Ltd.	2,387 7 5	Reavell & Co., Ltd.*	2,255 12 9
Scott & Mountain, Ltd.	2,314 0 0		

Wiring and Fittings.

Mann & Co.*‡ £2,740 18 9

‡ The lowest of seventeen tenders received.

MIDDLESBROUGH.—For the erection of tower and spire to the Church of St. Peter. Mr. J. Mitchell Bottomley, architect, 28, Albert-street, Middlesbrough :—

Thos. Dickinson	£800 0 0	Bastiman Bros.	£613 9 3
Albert Palfreman	702 19 6	Stephen Coates, Ormesby-road, Middlesbrough*	562 14 10
Allison Bros.	700 0 0		
Anthony Lyons	652 11 9		
W. A. King	634 10 9		

MIDDLETON (Lancs).—For the erection of electricity buildings, for the Corporation. Messrs. Stones & Stones, architects, 10, Richmond-terrace, Blackburn :—

Partington & Sons, Middleton £5,950

MOSS SIDE (Lancs).—For paving, sewering, &c., Great Western-street and Middleton-street, for the Urban District Council. Mr. H. B. Longley, Surveyor, Council Offices, Moss Side, Manchester. Quantities by the Surveyor :—

General Contract.

W. H. Worthington, Manchester,‡ £6,276 19 0

‡ The lowest of five tenders received.

Artificial Flagging.

The Hard York Stone Co., Lightcliffe £400 7 8

NOTTINGHAM.—For rebuilding the Old Moot Hall Wheeler Gate, for Messrs. J. Brown & Co. Mr. A. R. Calvert, architect, Low Pavement, Nottingham :—

William Maule, Nottingham* (lowest tender) £4,567

NOTTINGHAM.—For the construction of sewerage works, St. Ann's Well-road, for the Corporation. Mr. Arthur Brown, C.E., Guildhall, Nottingham :—

E. Lucas	£14,404 17 8	Johnson & Langley	£9,861 10 0
Kerry & Co.	12,170 17 11	T. Smart	9,500 0 0
R. M. Parkinson	10,985 0 0	Nowell & Sons	8,999 0 0
George Bell	10,768 0 0	Lock & Andrews	8,583 4 3
Barnes & Co.	10,750 0 0	Benthey & Loch, Leicester*	8,275 11 3
Bower Bros.	10,590 0 0		
W. Wall	9,917 0 0		

PONTEFRACT.—For the erection of six houses, Ferrybridge-road, for Mrs. Smith and Mr. Hurst. Mr. W. Hurst, architect, Pontefract :—

Bricklaying and Masonry.—Arthur Taylor*	£600 0 0
Carpentry and Joinery.—Curry & Co.*	274 10 0
Slating.—George Spurr*	86 17 0
Plastering.—T. W. Senior*	83 0 0
Plumbing and Glazing.—T. Leng*	70 0 0
Painting.—S. Harrison*	13 12 6

[All of Pontefract.]

The proprietors provide ranges, stoves, and sanitary ware.

POYNTINGTON.—For rebuilding the viaduct, for the Dorset County Council. Mr. W. J. Fletcher, County Surveyor, Wimborne :—

Alfred Andrews	£300 0 0	Samuel Curtis	£285 0 0
Alex. Betten	298 6 6	F. J. Hayward	240 9 9

PWLLHELI.—For the erection of a town and market hall, Penlan-street, for the Town Council :—

Jones, Roberts, & Jones	£6,566 16 9	R. Williams	£6,022 0 0
Thomas & Williams	6,241 0 0	P. Edwards, Doddleston, Chester*	5,890 0 0
Owen & Jones	6,150 0 0		

STAINES.—For the supply of 350 tons, Guernsey granite, for the Urban District Council. Mr. E. J. Barrett, C.E., Town Hall, Staines :—

	Per ton, delivered at Staines Junction. s. d.
Griffiths & Co.	17 6
Mowlem & Co.	17 2
A. & F. Manuelle	16 7
Fry Bros., Greenwich, S.E.*	15 10

TIRPHIL (Mon.).—For widening a highway bridge over Rhymney River, for the Bedwellty Urban District Council. Mr. J. H. Lewis, C.E., Blackwood, Mon. Quantities by Mr. Lewis :—

Williams & Sons, New Tredegar* £977 18 6

WARWICK.—For additions to workhouse, for the Guardians. Mr. F. P. Trepess, architect, 8, Jury-street, Warwick. Quantities by architect :—

Building Only.

Dawkes & Son	£255	J. & C. Castimore, Warwick*	£220
E. Tallip	230		

Disinfector.

Tomlinson & Milan, Huddersfield* £180 10

WORKINGTON.—For alterations and additions to property at corner of South William-street and Vulcan-lane, for Mr. J. L. Yeowart. Messrs. W. G. Scott & Co architects, Victoria-buildings, Workington :—

Masonry.—L. Ferguson, Caledonia-place, Workington*	£255 13 6
Joinery.—G. H. Chambers, Dean-street, Workington*	263 0 0
Slating.—J. B. Whitfield, Station-road, Workington*	14 8 0
Plumbing.—W. Strathern, King-street, Whitehaven*	121 0 0
Plastering.—J. Lawson, Gordon-street, Workington*	96 0 0
Glazing and Painting.—Harwood & Cowen, Harrington-road, Workington*	80 0 0
	£830 1 6

[See also next page.

YATTON.—For the erection of two cottages. Mr. C. A. Rowley, architect, 38, College-green, Bristol :—

J. Hatherly	£475
G. & H. Needham, Yatton*	436

LONDON SCHOOL BOARD TENDERS.

At the last meeting of the London School Board, the Works Committee submitted the following list of tenders. Mr. T. J. Bailey is the Board's Architect :—

CAPLAND-STREET.—Refitting the boys' and male and female infants' offices, rebuilding the girls' offices, and refitting with separate pans, refitting boys' offices Deaf and Dumb Centre, and teachers' offices, new channels to lavatories, re-arranging falls to tar-paving in portions of playgrounds in order to avoid unnecessary gullies, and new drainage scheme, including a new connexion to sewer in Capland-street :—

Godson & Sons	£3,238 0 0	Stevens Bros.	£2,948 0 0
Killingback & Co.	3,235 0 0	Martin, Wells, & Co.	2,909 0 0
Lawrance & Sons	3,211 0 0	G Neal	2,822 15 1
Williams & Son	3,119 0 0	R. P. Beattie‡	2,802 4 7

MANCHESTER-STREET. — Enlargement and improvements.

Ground Floor—Infants' Department.—Providing two new classrooms, 50, 60 ; re-dividing and re-stepping classrooms C and D into classrooms C, D, and E, 56, 48, and 48, and providing additional lighting ; providing new kindergarten gallery in babies' room and re-lighting babies' room ; providing new hall, 58 ft. by 31 ft. ; new cloakrooms, lavatories, stock, and teachers' rooms ; removing existing classroom F and forming new staircase in place ; providing one new exterior and one interior water-closet for teachers ; additional open and new covered playgrounds, and forming new entrances in Tonbridge-street.

First Floor—Boys' Department.—Providing two new classrooms, 50, 60, enlarging classroom F from 40 to 60 ; re-dividing and re-stepping classrooms C and D into classrooms C, D, and E, 56, 48, and 48, and providing additional lighting to same ; re-seating and re-lighting classroom A ; providing new hall, 58 ft. by 31 ft. ; providing two new staircases, cloakrooms, lavatories, stock and teachers' rooms, removing existing classroom F and forming new staircase in place.

Second Floor—Girls' Department.—Providing two new classrooms, 50 and 60 ; enlarging classroom F from 40 to 60 ; re-dividing classrooms C and D into C, D, and E, 56, 48, and 48, and re-stepping and providing additional lighting to same ; re-seating and providing additional lighting to classroom A ; providing new hall, 58 ft. by 31 ft. 4½ in. ; providing two new staircases, new cloakrooms, lavatories, teachers' room, and stockroom ; removing existing classroom F, and forming new staircase in place.

Third Floor.—Providing drawing classroom (area, 1,247 ft.), modelling-room (area, 268 ft.), new water-closets, and additional playground for girls.

Heating by low-pressure hot-water apparatus. Enclosing, draining, and tar-paving the additional land, and providing new drainage scheme.

Revised accommodation :—Boys, 442 ; girls, 442 ; infants, 446 ; total, 1,330 ; net gain, 142.

T. L. Green	£20,483	Lawrance & Sons	£19,172
Leslie & Co., Ltd.	20,132	Clarke & Bracey	19,163
Grover & Son	19,822	Treasure & Son, London and Shrewsbury‡	18,533
C. Cox	19,606		
Miskin & Sons	19,584		
Williams & Son	19,558		

EDINBURGH-ROAD. — School for thirty blind children (two classrooms of fifteen each) and special school for sixty (three classrooms of twenty each), and enclosing, draining, and tar-paving additional land :—

Outhwaite & Son	£8,291	Johnson & Co., Ltd.	£6,660
O. Craske	7,569	Lawrance & Sons	6,561
Leslie & Co., Ltd.	7,044	J. Appleby	6,337
Miskin & Sons	6,918	Treasure & Son, London and Shrewsbury‡	6,296
Unaigned	6,766		

MERTON-ROAD—Enlargement—Boys, 120 ; girls, 120 ; infants, 78 ; total, 318. Providing two new 60 classrooms for each department ; extending corridor ; providing three new teachers' rooms, one for each department ; enlarging boys' and girls' cloak-rooms ; providing new cloak-room for boys ; converting temporary girls' and infants' teachers' room into stock-room for girls ; providing new stock-room for boys ; new entrance porch for infants ; re-dividing and re-stepping existing south classrooms for boys' and girls' departments. Revised accommodation —Boys, 360 ; girls, 360 ; infants, 389 ; total, 1,109.

Bulled & Co.	£5,383	Johnson & Co., Ltd.	£4,844
F. & H. F. Higgs	4,972	Garrett & Son	4,700
O. Craske	4,962	E. Triggs	4,683
Wall & Co.	4,945	J. & C. Bowyer‡	4,676
B. E. Nightingale	4,943		

TOWNMEAD-ROAD SCHOOL.—Accommodation :—boys, 360 ; girls, 360 ; infants, 360 ; total, 1,080. Graded school on three stories. Hall—boys, 54 ft. 6 in. by 32 ft. 6 in. ; girls, 54 ft. 6 in. by 32 ft. 6 in ; infants, 54 ft. 6 in. by 32 ft. 6 in. Class rooms—boys, 40, 40, 56, 56, 60, 60, 48 ; girls, 40, 40, 56, 56, 60, 60, 48 ; infants, 40, 40, 56, 56, 60, 60, 48. Drawing classroom, 1,178 ft. area. Playgrounds area per child—boys, about 76 ft. ; girls and infants, about 48 ft. each. Heating by low-pressure hot-water apparatus. Area of site about 71,030 sq. ft. School-keeper's house :—

B. E. Nightingale	£36,350	Stimpson & Co.	£32,320
Leslie & Co., Ltd.	34,103	Lawrence & Sons	32,052
Miskin & Sons	34,035	J. & M. Patrick	31,089
Kirk & Randall	33,531	Smith & Sons, Ltd.	30,933
C. Wall	33,425	Wallis & Sons	30,853
O. Craske	33,384	Treasure & Son, London and Shrewsbury‡	30,422
Killby & Gayford	32,780		

WEST-HILL SITE.—Erecting three iron buildings :—

W. Harbrow	£1,565 0	Hawkins & Co.	£1,355 0
T. Cruwys	1,548 0	Mitson & Co.	1,282 0
Croggon & Co. Ltd.	1,397 10	J. & W. T. Hunter‡	1,175 0

‡ *Recommended for acceptance.*

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